Clause-internal successive cyclicity: phasality or DP intervention?

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Abstract: The well-known requirement that movement must proceed successive-cyclically through intermediate landing sites is standardly attributed to the presence of locality domains (phases) along the extraction path. Correspondingly, the existence of clause-medial intermediate landing sites is commonly taken as evidence for the existence of a clause-medial phase. In this paper, we argue that at least some instances of successive cyclicity through clause-medial positions are better understood as the result of intervention by the external-argument DP, not phasehood. Building on recent proposals about the principles that govern the behavior of complex probes, we propose that C in these cases can only attract the structurally closest DP. Elements separated from C by an intervening DP must first move around the intervening DP ("leapfrogging"). In languages where such leapfrogging is impossible, a local-subject-only extraction restriction arises; in language where such leapfrogging is possible, extracting elements across the local subject is possible but must proceed through a clause-medial intermediate position, resulting in successive cyclicity. Evidence for this shift away from absolute locality domains like clause-medial phases to a DP-intervention account includes: (a) the reflexes of successive cyclicity are selective, arising with some elements but not others, (b) the distribution of the effect does not correlate with whether an element is vP-internal or vP-external, but with whether a DP intervenes between this element and C, and (c) extraction patterns in unaccusatives.

1. Introduction

According to standard phase theory (Chomsky 2000, 2001, 2008, with an important precursor in Van Riemsdijk's 1978 *Head Constraint*), syntactic structure is subject to periodic *Spell-Out* (or *Transfer*), which renders it unavailable for further syntactic processes. Once a phase is completed, its complement undergoes Spell-Out, which makes the phase complement inaccessible for all subsequent operations. Only the phase head itself and its specifiers (the so-called *phase edge*) remain accessible. This architecture results in the *Phase Impenetrability Condition* (or PIC) in (1).[1]

(1) *Phase Impenetrability Condition* (Chomsky 2000:108)
In phase α with head H, the domain of H is not accessible to operations outside of α, only H and its edge are accessible to such operations.

[1] There exist at least two widely adopted versions of the PIC, which differ in when the syntactic structure becomes unavailable. The version in (1) states that the phase complement is spelled out once the next-higher head is merged (Chomsky 2000); the other version of the PIC is that Spell-Out takes place when the next-higher *phase* head is merged (Chomsky 2001). We will tentatively assume the former version here but our investigation of clause-internal successive cyclicity is not specifically tied to one choice over the other.

A key consequence of the PIC is that it leads to successive-cyclic movement: in order for an element in the phase complement to remain accessible, this element must first move to the phase edge to avoid Spell-Out.

The PIC states the effect that a phase head has on the syntactic computation, but it does not, in and of itself, determine which domains count as phasal (and equivalently, which heads constitute phase heads). The question is empirical in nature. The traditional view (Chomsky 2000, 2001 and much subsequent work) holds that CPs and (transitive) vPs are phases, at least in the verbal domain (an idea that goes back to Chomsky 1986), but a number of alternatives have been explored in the literature, including that every phrase is a phase (Bošković 2002, Boeckx 2003, Müller 2004, 2010, 2011, Boeckx & Grohmann 2007; see also Manzini 1994 and Takahashi 1994), that every syntactic operation constitutes a phase (Epstein & Seely 2002), that phasehood is determined contextually (Bošković 2005, 2014, Den Dikken 2007, Gallego & Uriagereka 2007a,b, Takahashi 2010, 2011), and that CP is a phase but vP is not (Grano & Lasnik 2018, Keine 2020a,b, Mendes & Ranero 2021). Across these proposals, there is broad (though not universal, see Den Dikken 2017) consensus that CP is a phase, a view that goes back to Chomsky (1973, 1977, 1981). But the identity and distribution of other phase heads (e.g., vP, DP, PP) is less securely established and hence more controversial.

In this paper, we focus on the status of clause-internal phases (as opposed to clause-peripheral phases like CP). It is standardly assumed, following Chomsky (2000, 2001), that clauses contain a clause-medial phase, typically taken to be vP. Important empirical motivation for this view comes from clause-internal intermediate landing sites of movement, as shown in (2).

(2) $[_{\text{CP}}\ \overset{\downarrow}{\text{DP}}_1^{\textit{internal argument}}\ \text{C} \ldots [_{\text{TP/vP/}\ldots}\ \overset{\downarrow}{t'_1}\ \text{DP}^{\textit{external argument}} \ldots [_{\text{VP}}\ \text{V}\ t_1\ ]\ ]\ ]$

A standard phase-based account attributes the need for an intermediate landing site to the presence of a clause-medial phase in the verbal spine, which enforces movement through its edge along the lines just noted.

In this paper, we explore a different approach to clause-medial successive cyclicity—one that eschews clause-medial phases and instead attributes clause-medial successive cyclicity to intervention by the external argument DP. The basic idea is that the external argument DP intervenes between C and the internal argument DP and thereby blocks attraction of the internal argument from its base position. In order to be extractable, the internal argument must first move around the external argument—a process often called *leapfrogging* (see Bobaljik 1995, McGinnis 1998, and Branan 2022 for relevant discussion of leapfrogging). The two approaches are stated in general terms in (3). We note at the outset that leapfrogging is not a special kind of movement in the technical sense; rather, we use the term as a handy moniker for movement of a lower DP (typically an object) over a higher DP (typically a subject), thus inverting the c-command relations between them.

(3) a. *Domain/phase-based approach:*
Obligatory successive-cyclic movement through a clause-internal position is the result of a clause-internal phase.

b. *DP-intervention approach:*
Obligatory successive-cyclic movement through a clause-internal position is the result of movement around an intervening DP ("leapfrogging").

While clause-internal intermediate landing sites have predominantly received domain-based accounts that fall under (3a), recent work on the locality of Ā-dependencies in other domains paves the way for an analysis in terms of DP intervention (3b). This work has argued that Ā-probes may be specified in such a way that they may only attract the structurally closest DP (Aldridge 2004, Aldridge 2008a, Coon et al. 2021, Branan & Erlewine 2024):

(4) *Ā-attraction of the closest DP*
An Ā-probe can be specified to only attract the structurally closest DP.

(4) has the effect that Ā-probes may have a locality profile normally associated with A-probes.[2] (4) may be implemented in several ways, to which we will return in section 2 and beyond. The original motivation for (4) comes from movement restrictions unrelated to successive cyclicity, in particular patterns in which DPs other than the highest one are banned from undergoing Ā-movement altogether, such as subject-only extraction restrictions (e.g., Keenan & Comrie 1977) and syntactic ergativity (e.g., Coon et al. 2021, Yuan 2022, and the references cited there). But (4) also opens up a new account of successive cylicity: in order for a lower DP to be attractable by C, it must first move over the subject DP if this is possible. In this case, we propose, (4) does not manifest as a an extraction restriction but rather as the need for successive-cyclic movement.

We develop DP-intervention accounts along the lines of (3b) on the basis of three case studies: (i) extraction restrictions in Standard Indonesian (section 2), (ii) successive cyclicity in Dinka (section 3), and (iii) successive cyclicity in Defaka (section 4). All of these patterns have been taken as evidence for vP phasehood in the previous literature; our goal is to assess to what extent they are amenable to a DP-intervention account based on (4). We will argue that not only is an analysis in terms of (4) possible; such an analysis is in fact preferable in several respects to a phase-based account conceptually or empirically. First, a DP-intervention analysis offers a unified account of both extraction restrictions (such as in Indonesian) and of successive cyclicity (such as in Dinka and Defaka). Second, across the case studies here, the position of the intermediate landing site seems to track not vP, but the canonical position of the subject (particularly clearly in the case of Defaka). We argue that this is derived on a DP-intervention account but not on a phase-based analysis. Third, we show that the relevant effects arise only in the presence of an intervener of the right "kind" (to be made more precise). Because the nature of the intervener plays a central role on the intervention account but not the phase account, the former offers a more principled explanation of this observation. The general conclusion we draw is that successive cyclicity does not entail phasehood (a conclusion also reached on independent grounds by Legate 2012). DP intervention may give rise to superficially similar effects as phases, and care must be taken to differentiate between the two.

Before we proceed, some general remarks are in order. First, we emphasize that by "intervention" we specifically mean "intervention by a DP", in line with (3b). There are several proposals that rethink some or all phase locality in terms of intervention by the phase head or the phase as a whole (e.g., Abels 2003, Rackowski & Richards 2005, Halpert 2019, Thivierge 2021). For our concerns here, intervention by a phase head falls under (3a). While these proposals offer a different rationale of why phases should induce a locality effect (with sometimes significant empirical differences), they

[2] See Newman (2023) for a reanalysis of (4) according to which these probes *are* A-probes. As far as we can see, this reanalysis is fully compatible with the accounts presented here. What is crucial is the locality profile of the probe, not whether the movement it triggers has A- or Ā-properties.

nonetheless maintain the basic idea that this locality effect is the result of a projection in the verbal spine. The DP-intervention hypothesis (3b) crucially differs in that it makes no reference to verbal projections at all, only to DPs along the extraction path. We return to the matter in section 5.

Second, phase locality and intervention are of course not mutually exclusive, and in fact it is standardly assumed that phase locality and minimality-based locality coexist. Here, we argue that certain patterns that have been analyzed as the result of phase locality might be better understood as the result of minimality. Of course, this does not necessarily entail that minimality completely replaces phase locality. We return to the relationship between the two in section 5.

Third, all the empirical patterns we focus on here involve a subject/object asymmetry in the sense that object extraction causes the morphological reflex but local subject extraction does not. This asymmetry is often the key motivation for analyzing the pattern in terms of clause-internal (in particular, vP) phases. We will put aside empirical patterns that treat Ā-movement of all DPs the same as these can be analyzed purely with reference to CP. As such, they do not unambiguously diagnose a clause-internal intermediate landing site and are therefore less relevant for the choice between (3a) and (3b).[3]

The paper proceeds as follows: Sections 2–4 contain the core case studies: Section 2 investigates a subject-only extraction restriction in Standard Indonesian; section 3 discusses successive cyclicity in Dinka; and section 4 discusses successive cyclicity in Defaka. Across these three case studies, we argue that the relevant generalization can be productively understood in terms of DP intervention (rather than clause-medial phasality). Based on this conclusion, section 5 then raises the question of whether clause-internal phasehood is still required or whether DP intervention obviates the need for such phases more generally.

[3] For example, in Passamaquoddy, Ā-movement of any DP over a verb allows this verb to optionally appear in an agreeing participial form. While this behavior has been analyzed in terms of vP phases (Bruening 2001, 2004) and sometimes been taken as evidence for vP phases (Van Urk 2016, 2020a,b), it seems equally possible to us to locate the effect in CP, with the added assumption that an effect in CP may morphologically manifest on the verb (a syntax–morphology mismatch, similar to, e.g., affix lowering in English, where tense and agreement is syntactically in T but pronounced on V+v under lowering).

Another instance of a morphological reflex that treats subject and objects alike is tonal marking in Asante Twi (Korsah & Murphy 2020). Here, there is evidence that the effect is syntactically quite high (in particular, it is (i) higher than the base position of the external argument, (ii) higher than adjunct PPs, (iii) higher than negation, and (iv) higher than progressive and perfective aspect), making a CP analysis at least viable. We note that Korsah & Murphy (2020) do argue that the effect is not as high as C, based on the generalization that the verb, negative prefix, and aspect undergo the tone shift, but tense suffixes and agreement prefixes do not. However, in apparent conflict with the generalization that Korsah & Murphy (2020) assume, Marfo (2005a, 2005b:164–166) shows that the tone shift does spread onto agreement prefixes under the right circumstances and that the cases in which the tone does not spread are phonologically conditioned (the tone cannot spread across an onset). Furthermore, Marfo (2005a,b) treats the tone-spreading rule as regressive, which derives that it does not affect tense suffixes. With this purely phonological account available, it is not at all clear that clause-internal landing sites or vP phases are needed to explain these facts.

Notably, when combined with the Mirror Principle (Baker 1985), a reanalysis of this kind of reflexes as appearing in the CP region rather than in vP makes predictions about the positions of these effects: all else equal, these reflexes should appear in a peripheral position, either of the clause or (under morphological fusion) of the verb. We will not assess this prediction here, but see Harley (2011) for morphological operations that may distort the effects of the Mirror Principle.

2. Voice and DP intervention in Standard Indonesian

In Indonesian and Malay, verbs in the active voice can be (or must be, depending on the variety) marked with the voice prefix *meN-*. Importantly, the presence of this voice prefix blocks Ā-movement of a DP other than the local subject (for Indonesian, see Saddy 1991, Fortin 2006, Aldridge 2008b, Cole et al. 2008, Sato 2012, Georgi 2014, and Jeoung 2018; for Malay, see Cole & Hermon 1998, Soh 1998, and Cole et al. 2008). In this section, we will discuss the interaction between Ā-extraction and voice in Standard Indonesian (SI), based on Cole et al. (2008) (for an analogous pattern in Sarolangun Malay, see Cole et al. 2008:1516–1523; for Acehnese, see Legate 2011; and for Balinese, see Wechsler & Arka 1998). By "Standard Indonesian", Cole et al. (2008) mean prescriptive Standard Indonesian, which differs from other (standard-like) varieties commonly discussed in the syntactic literature in certain respects (some of which will be relevant here). We will follow Cole et al.'s (2008) terminology here, and we will briefly discuss varieties other than Standard Indonesian in section 5.2.

The crucial generalization in Standard Indonesian is that the only DP that may undergo Ā-extraction in a clause is the subject (i.e., the highest DP) of that clause (related subject-only extraction patterns are also observed in other Austronesian languages, see, e.g., Keenan & Comrie 1977, Aldridge 2004, 2008a, and Rackowski & Richards 2005). The discussion in this section first serves to illustrate the kind of empirical pattern that motivates the closest-DP restriction on Ā-probes (4). We then develop a DP-intervention account and compare it to a vP-phase account as proposed by Cole et al. (2008).

2.1. Subject-only extraction

In SI, the verb in active-voice clauses bears the prefix *meN-*. As shown in (5), omission of this prefix is ungrammatical (for transitive verbs).[4]

(5) *Active voice*
Tono ***(mem-)**beli buku di toko buku.
Tono *(ACT-)buy book LOC store book
'Tono bought a book at the bookstore.' [Cole et al. 2008:1504, ex. (3), (4)]

The subject of an active clause must precede negation and temporal markers, as shown in (6).

(6) *Subject precedes negation and temporal markers*
a. **Kami** tidak akan mem-baca buku ini
we not will ACT-read book this
'We will not read this book.'
b. *Tidak akan **kami** mem-baca buku ini
not will we ACT-read book this
'We will not read this book.' [Cole et al. 2008:1512, ex. (38), (39)]

[4] Abbreviations in glosses follow the Leipzig glossing conventions, with the following additions: HAB – habitual; NFIN – nonfinite; OBLV – oblique voice; OV – object voice; P – preposition; SV – subject voice; TR – transitive. In some cases, glosses have been modified from the original sources for consistency.

Turning now to Ā-extraction, the only DP argument that can be extracted is the subject (Cole et al. 2008:1505), as shown in (7).

(7) *Ā-extraction of DPs is limited to subject*

a. **Siapa$_1$** yang ____$_1$ mem-beli buku di toko buku?
who C ACT-buy book LOC store book
'Who bought the book at the book store?'

b. *__Apa$_1$__ yang Tono mem-beli ____$_1$ di toko buku?
what C Tono ACT-buy LOC store book
'What did Tono buy at the book store?' [Yanti, p.c.]

This restriction is not limited to wh-movement, but also holds for other Ā-movements, such as relativization, as shown in (8).

(8) a. Dia me-lihat perempuan itu
he ACT-see woman that
'He sees the woman.'

b. *[$_{DP}$ Perempuan [$_{CP}$ yang dia me-lihat ____] itu] men-angis
woman that he ACT-see that ACT-cry
'The woman that he saw cried.' [Cole et al. 2008:1512–1513, ex. (32), (33)]

Interestingly, Ā-movement of elements that are not DPs is not subject to this restriction. Movement of PPs or adverbials is possible in the active voice even if the element originates within the vP, as illustrated in (9).

(9) *Ā-extraction of non-DPs is not restricted*

a. **Kapan$_1$** Ali mem-ukul Ahmad ____$_1$?
when Ali ACT-hit Ahmad
'When did Ali hit Ahmad?' [Cole et al. 2008:1505, ex. (12)]

b. **Kepada siapa$_1$** Mary akan mem-beri buku itu ____$_1$?
to whom Mary FUT ACT-give book the
'To whom will Mary give the book?' [Yanti, p.c.]

The generalizations so far characterize the active voice in SI. A second voice is the so-called *object voice* (Chung 1976a,b, Cole & Hermon 1998, 2005, Cole et al. 2008, Sato 2012).[5] The object voice is illustrated in (10). In this voice, the verb does not bear *meN-* (Chung 1976a:51, Cole & Hermon 1998:232, Cole et al. 2008:1505, Sato 2012:34). The external argument (EA)—*kami* 'we' in (10)—is obligatorily present, but it must appear in the immediately preverbal position, following negation and temporal markers if these are present (Cole et al. 2008:1506–1507). The regular subject position (preceding negation and temporal markers) is occupied by the internal argument (IA)—*buku ini* 'this book' in (10).

[5] We adopt the term "object voice" from Cole et al. (2008), Yanti (2010), and Legate (2014). Chung (1976a,b) and Cole & Hermon (1998) refer to this construction as "object preposing", Cole & Hermon (2005) as "Passive Type Two (P2)", Guilfoyle et al. (1992) as "subjective passive", and Arka & Manning (1998) as "objective voice".

(10) *Object voice*

a. *Buku ini* tidak akan **kami** baca
book this not will we OV.read
'This book will not be read by us.'

b. **Buku ini* **kami** tidak akan baca
book this we not will OV.read
'This book will not be read by us.' [Cole et al. 2008:1512, ex. (37)]

The previous literature has argued that in this construction (i) the agent is an argument DP rather than an adjunct (Alsagoff 1992, Guilfoyle et al. 1992, Arka & Manning 1998, Cole et al. 2008), and (ii) the preposed IA is in an A-position (Chung 1976a,b). For example, Arka & Manning (1998) show that the agent may bind a preposed reflexive IA, as in (11). Assuming, as is standard, that reflexive binding is possible only from DPs in A-positions, (11) shows that the agent is a DP and located in an A-position.

(11) *Agent is argument DP*

Dirinya mesti **dia** serahkan ke polisi
self must (s)he surrender to police
'(S)he must surrender herself/himself to the police.' [Arka & Manning 1998:7, ex. (16c)]

In addition, Chung (1976a,b) and subsequent work has shown that the preposed IAs may be PRO, as in (12), indicating that it occupies the subject position of the clause (the agent may not be PRO).

(12) *Preposed IA may be PRO*

Saja mem-bawa surat itu [untuk PRO dapat kau batja]
I ACT-bring letter the for can you read
'I brought the letter to be able to be read by you.' [Chung 1976a:47, ex. (20)]

We adopt Cole et al.'s (2008) clause structure for the object-voice construction in (13), according to which the IA moves to the subject position in [Spec,TP] and the EA remains in [Spec,vP] (also see Guilfoyle et al. 1992, Cole et al. 2008, Sato 2012, Legate 2014).

(13) *Object-voice clause structure*

$[_{TP}$ buku ini$_1$ $[_{NegP}$ tidak $[_{ModalP}$ akan $[_{vP}$ kam baca t_1]]]]
book this not will we read

Like the active voice, the object voice exhibits an extraction restriction: the only DP that may be extracted is the subject (Cole et al. 2008:1508), in this case the IA. Extraction of the EA is ill-formed (also see Yanti 2010 and Legate 2014).

(14) *Only subject may be extracted in object voice*

a. **Apa$_1$** yang ____$_1$ akan kamu lihat?
what that will you see
'What will you see?'

b. *__Siapa__$_1$ yang buku ini akan ____$_1$ lihat?
who that book this will see
'Who will see this book?' [Cole et al. 2008:1508, ex. (22b,c)]

Cole et al. (2008) show that the restriction in (14b) stems from a constraint on movement. If the external argument is a wh-expression that does not move, the structure is grammatical.

(15) Buku ini akan siapa lihat?
book this will who see
'Who will see this book?' [Cole et al. 2008:1508, ex. (22a)]

In line with the overarching subject-only extraction restriction, Cole et al. (2008) show that Ā-extraction of an IA requires an object-voice source structure (or the passive voice, not discussed here) instead of an active-voice structure. The relevant evidence comes from word order considerations. The example in (16a) involves relativization of an IA. Such relativization is possible in (16a), but not in (16b). The placement of the subject *kami* 'we' to the right of *akan* 'will' makes it clear that (16a) involves an object-voice source, with movement of the IA relative operator to [Spec,TP], followed by relativization from there. By contrast, in the ungrammatical (16b), the subject position is occupied by the EA *kami*, which relativization of the IA crosses. The resulting structure is ungrammatical even if *meN-* is not present (we already saw based on (8b) that object relativization is always impossible if *meN-* is present).

(16) *Only subject may undergo Ā-extraction*

a. [$_{DP}$ Buku [$_{CP}$ yang ____ tidak akan *kami* baca]] sangat menarik
book that not will we read very interesting
'The book that we will not read is very interesting.'

b. *[$_{DP}$ Buku [$_{CP}$ yang *kami* tidak akan baca ____]] sangat menarik
book that we not will read very interesting
'The book that we will not read is very interesting.' [Cole et al. 2008:1513, ex. (42)]

Thus, Ā-extraction of a DP may proceed only from [Spec,TP], and IA extraction hence requires an object-voice base structure. (16) also shows that in SI, it is not *meN-* that blocks IA extraction in the active voice; instead, it is the presence of a structurally higher DP. Ā-extraction is always limited to the DP in [Spec,TP] (i.e., the structurally highest DP), and the choice of voice head determines which DP ends up in [Spec,TP] (EA in the active voice, IA in the object voice).

It is important to note here that while this dependence of IA extraction on the object voice is also observed in other varieties and related languages (such as Sarolangun Malay, Balinese, and Acehnese; see Cole et al. 2008:1516–1523, Wechsler & Arka 1998, and Legate 2011, respectively), it does not hold in other, more commonly studied (standard-like) varieties of Indonesian and Malay. In those varieties, IA extraction requires absence of *meN-*, but it does not require the object voice (see in particular Cole & Hermon 2005, Cole et al. 2008, and Yanti 2010 for relevant discussion). Thus, structures like (16b) are grammatical in those varieties (e.g., Cole & Hermon 2005:64). We will put such other varieties aside here but will return to them in section 5.3.

2.2. Extraction restriction and vP phases

Cole et al. (2008) develop an analysis of the SI extraction pattern that incorporates vP phases. In this section, we will briefly present their analysis and then compare it to one that invokes DP intervention instead of vP phases.

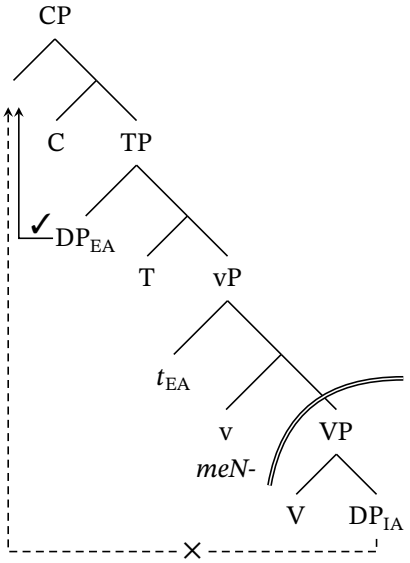
As noted, Cole et al. (2008) assume, in line with much of the literature on Indonesian and Malay, that the EA moves to [Spec,TP] in the active voice. For the object voice, they assume that the IA first undergoes movement to an outer [Spec,vP], from where it then moves to [Spec,TP].[6] The EA remains in its [Spec,vP] base position in the object voice. Analogous structures are proposed by Legate (2014). Cole et al. (2008) furthermore propose that the v head is ordinarily realized as *meN-*, but that it is null if the IA moves to [Spec,vP].[7] The view that *meN-* realizes v or Voice is also found in Aldridge (2008b), Sato (2012), Georgi (2014), and Legate (2014), among others. The schematic structures are given in (17).

(17) a. *TP structure of active voice*
$[_{TP}\ DP_{EA}\ T\ [_{vP}\ t_{EA}\ v\ (\Rightarrow meN\text{-})\ [_{VP}\ V\ DP_{IA}\ ]\ ]\ ]$

b. *TP structure of object voice*
$[_{TP}\ DP_{IA}\ T\ [_{vP}\ t_{IA}\ DP_{EA}\ v\ (\Rightarrow \emptyset\text{-})\ [_{VP}\ V\ t_{IA}\ ]\ ]\ ]$

We now turn to the extraction restrictions. We saw that in the active voice the EA is the only DP that may undergo Ā-movement, as shown in (18).

(18) *Ā-extraction limitation in active voice*



Cole et al. (2008) propose a vP-phase account of this restriction. As mentioned, on their account, *meN-* indicates that no object shift of the IA to [Spec,vP] has taken place and that the IA remains

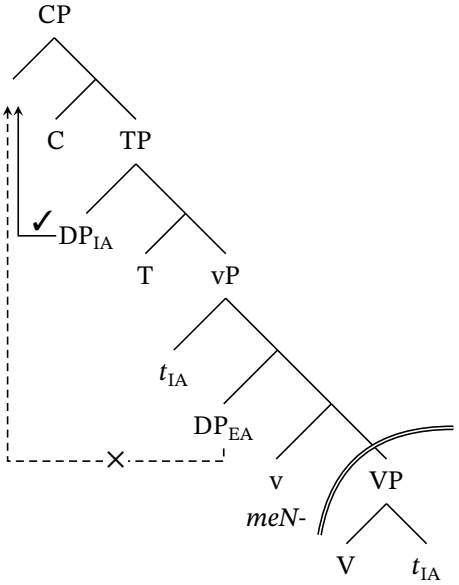
[6] We abstract away from the distinction between v and Voice here, which is irrelevant for our concerns.

[7] They furthermore suggest that this alternation is the result of agreement in case, but this aspect of their account does not bear on what follows. See Legate (2011) for discussion.

inside the VP in the active voice. Ā-movement of the IA DP would violate the PIC and is thus correctly ruled out.

In the object voice, by contrast, the IA undergoes movement to an outer [Spec,vP] and then to [Spec,TP]. This extraction is correctly permitted by the PIC, as shown in (19).

(19) *Ā-extraction limitation in object voice*



A vP-phase account thus successfully derives the fact that the IA may undergo Ā-movement only in the object voice, not in the active voice. But this is only one half of the extraction restriction. What vP phases and the PIC do not explain is why the EA cannot undergo Ā-movement in the object voice (see (14)). The reason is that the EA is base-generated in [Spec,vP], and hence at the phase edge. The fact that it cannot undergo Ā-movement therefore does not follow from vP phasality and the PIC unless further assumptions are made (see Cole et al. 2008 and Legate 2014:59–64 for proposals). More generally, vP phases and the PIC do not distinguish between the EA in the active voice (which may undergo Ā-movement) and the EA in the passive voice (which may not)—both are located outside the Spell-Out domain of a vP phase, and, as far as vP phases are concerned, should therefore be able to undergo Ā-extraction. The phase account thus misses a generalization: in both (18) and (19), only the structurally highest DP may undergo Ā-movement, regardless of where this DP is located relative to vP.

A second complication for a vP-phase account is that the extraction restriction applies only to DPs. PPs and adverbials may freely undergo Ā-movement in the active voice, even if they originate within the vP complement (see in particular (9b)). Because vP phases require all extraction to proceed successive-cyclically through the phase edge, PPs and adverbials must likewise pass through [Spec,vP]. This raises the question why this option is not available for DPs, and it weakens the analytical link between successive-cyclic movement through [Spec,vP] and absence of *meN-*.

What we see, then, is a *double dissociation* between vP and the extraction restriction: being in the vP complement is *neither sufficient nor necessary* for the extraction restriction to arise. This encourages an approach to the restriction that does not aim to ground it in vP phases.

2.3. A DP-intervention analysis

In this section, we propose a DP-intervention account of the SI extraction restriction. The discussion serves two broader goals. First, it demonstrates that at least some extraction restrictions that have been analyzed as the effects of vP phases may be accounted for in terms of DP intervention. Second, we show that DP intervention effectively results in the need for successive-cyclic movement, albeit in a non-standard fashion. This conclusion then sets the stage for a reanalysis of more standard instances of successive-cyclic movement in sections 3 and 4.

We follow Cole et al.'s (2008) analysis in tying the presence or absence of *meN-* to whether the IA shifts to an outer [Spec,vP]. We implement this distinction by postulating the two v heads in (20). The active-voice v head (20a) does not contain a movement-inducing feature and is realized as *meN-*, where the object-voice v head (20b) contains a movement-inducing feature that moves the structurally closest DP c-commanded by v to an outer [Spec,vP].

(20) a. *meN-:* does not contain movement-inducing features
b. *Ø-:* contains a movement-inducing [uD] feature

Furthermore, T in SI bears an EPP feature ([uD]) that attracts the structurally closest DP to [Spec,TP]. In the active voice, the closest DP is the EA; in the object voice, the closest DP is the IA (due to (20b)-driven object shift at the vP level).

The crucial difference between the analysis we develop here and Cole et al.'s (2008) is that we do *not* treat vP as a phase. Based on the proposals in Aldridge (2004, 2008a), Coon et al. (2021), and Branan & Erlewine (2024), we propose that C and T are subject to the closest-DP restriction in SI: C may only attract the structurally closest DP. More specifically, we adopt the proposal in Erlewine (2018), Coon et al. (2021), and Branan & Erlewine (2024) that an Ā-probe may be specified not just for an Ā-feature but also for a categorial feature (also see Baier 2018). We propose that C in SI has the makeup in (21) (to be extended below). (21) contains a complex probe that searches for both [$u\delta$] and [uD] (following Miyagawa 2017, we use the cover term "[$u\delta$]-feature" to refer to movement-inducing information-structural features, including wh-movement, focus fronting, and relativization).

(21) C: [$u\delta$+uD]

Erlewine (2018), Coon & Keine (2021), Coon et al. (2021), and Branan & Erlewine (2024) argue that complex probes of this type cannot attract a fully-matching goal over a partially matching one. This restriction is stated in (22) and schematized in (23). In (23), the probe [uA+uB] comprises the two segments [uA] and [uB]. YP contains only a matching feature [A], and ZP contains a full [A+B] match. It is then not possible for the probe to attract ZP over YP.

(22) A complex probe cannot attract a fully-matching element across a partially-matching element.

(23) *[$_{XP}$ X$_{[uA+uB]}$ [… YP$_{[A]}$ … ZP$_{[A+B]}$ …]]

Erlewine (2018:686–687) and Branan & Erlewine (2024) implement (22) at the level of the Agree operation: a complex probe that encounters a partially-matching element stops probing. It is therefore

the Agree step in (23) that is illicit (and movement is thus impossible to begin with). Coon et al. (2021) derive this result from Coon & Keine's (2021) feature-gluttony system, according to which the complex probe [uA+uB] enter into Agree with both YP and ZP, which rules out to the movement step in (23) (for details, see Coon & Keine 2021 and Coon et al. 2021). Both ways of deriving (23) are compatible with what is to come. We will therefore focus on the effects of (22), rather than on the specific way (22) may be derived from deeper principles.

As a consequence of (22)/(23), both C and T may only attract the closest DP in SI. This entails that (i) C can attract only the subject in [Spec,TP] and (ii) the subject has to be whichever DP is highest inside the vP, which is in turn determined by the choice of head in (20). Applied to the constructions at hand, in the active voice, the EA is highest in the vP and hence moves to [Spec,TP]. If the EA bears [δ], as in (24a), it fully matches C's probe and is attracted to [Spec,CP]. By contrast, if the IA bears [δ], as in (24b), it fully matches C's probe, but the EA constitutes a partially-matching intervener. By (22)/(23), the EA then blocks attraction of the IA to [Spec,CP]. It follows that C can only attract the EA, not the IA, deriving the extraction restriction in the active voice.

(24) *Extraction in active voice*

a. $[_{CP}\ \underline{\ }\ C_{[u\delta+u\mathrm{DP}]}\ [_{TP}\ \mathrm{DP}^{[\delta]}_{EA}\ T_{[u\mathrm{D}]}\ [_{vP}\ t_{EA}\ \underline{\ v\ }\ (\Rightarrow \textit{meN}\text{-})\ [_{VP}\ \mathrm{V}\ \mathrm{DP}_{IA}\ ]\ ]\ ]\ ]$

b. $[_{CP}\ \underline{\ }\ C_{[u\delta+u\mathrm{DP}]}\ [_{TP}\ \boxed{\mathrm{DP}_{EA}}\ T_{[u\mathrm{D}]}\ [_{vP}\ t_{EA}\ \underline{\ v\ }\ (\Rightarrow \textit{meN}\text{-})\ [_{VP}\ \mathrm{V}\ \mathrm{DP}^{[\delta]}_{IA}\ ]\ ]\ ]\ ]$

vP phases play no role in this account. The ban against Ā-movement of the IA is not attributed to the presence of a clause-medial locality domain but rather to C's inability to extract a fully-matching goal over a partially matching one.

Let us now turn to the object voice, which involves the v head in (20b). As the result of vP-internal object shift, the IA is the closest DP to T and is hence attracted to [Spec,TP]. If the IA bears [δ], it is a full match for C's probe and undergoes movement to [Spec,CP] (25a); if instead the EA bears [δ], intervention by the partially matching IA blocks movement (25b).

(25) *Extraction in object voice*

a. $[_{CP}\ \underline{\ }\ C_{[u\delta+u\mathrm{DP}]}\ [_{TP}\ \mathrm{DP}^{[\delta]}_{IA}\ T_{[u\mathrm{D}]}\ [_{vP}\ t_{IA}\ \mathrm{DP}_{EA}\ \underline{\ v\ }\ (\Rightarrow \emptyset\text{-})\ [_{VP}\ \mathrm{V}\ t_{IA}\ ]\ ]\ ]\ ]$

b. $[_{CP}\ \underline{\ }\ C_{[u\delta+u\mathrm{DP}]}\ [_{TP}\ \boxed{\mathrm{DP}_{IA}}\ T_{[u\mathrm{D}]}\ [_{vP}\ t_{IA}\ \mathrm{DP}^{[\delta]}_{EA}\ \underline{\ v\ }\ (\Rightarrow \emptyset\text{-})\ [_{VP}\ \mathrm{V}\ t_{IA}\ ]\ ]\ ]\ ]$

This analysis unifies the extraction restriction in (25) with the restriction in (24): only the highest DP may undergo Ā-movement. In this regard, the empirical reach of a DP-intervention account is thus wider than that of a vP-phase account, which does not derive why EA extraction is impossible in (25b) despite the EA being located at the phase edge.[8]

The DP-intervention account also offers a new view on the non-DP extraction facts. As we saw in (9), extraction of adverbials and PPs is permitted in the active voice. This is particularly striking for

[8] This account also makes the prediction that if a double-object predicate appears in the object voice, only the higher of the two objects may become the subject of the sentence. This is because v in (20b) attracts the closest DP in its c-command domain to an outer [Spec,vP]. If this c-command domain contains two DPs, only the higher DP may thus move. This prediction seems to be borne out (Alsagoff 1992:54 for Malay).

(9b), where the PP is the goal argument of the verb and hence base-generated inside the vP. Clearly, then, such extraction is not subject to DP intervention. Indeed, there is evidence that Ā-movement of DPs differs syntactically from Ā-movement of PPs and adverbials in Indonesian/Malay, because a C-head that attracts a DP can be realized in a different way than a C-head that attracts PP/AdvP.[9] While Ā-fronted wh-DPs can or must precede the complementizer *yang* depending on the register (Cole & Hermon 1998:224n5, Fortin 2007:50), fronted PPs and adverbials are incompatible with *yang* (Fortin 2007:51–53, Jeoung 2018:31). We thus propose that there are several flavors of C in Indonesian/Malay, which differ in their featural content and their phonological form, given in (26).[10]

(26) a. C_{yang}: [$u\delta$+uD] (= (21))

b. $C_{\emptyset}$: [$u\delta$+uP]

c. $C_{\emptyset}$: [$u\delta$+uAdv]

(26b) and (26c) attract focused PPs and adverbials, respectively. Importantly, nonfocused DPs do *not* constitute a partial match to either (26b) or (26c). Such DPs therefore do not cause an intervention effect, in line with (22) and (23). As a result, (26b,c) will never result in the intervention situation in (23). This explains why PP and adverbial extraction is possible in the active voice, as illustrated in (27).

(27) *One-fell-swoop PP extraction*

$[_{CP} \underset{\downarrow}{\_\_}\ C_{[u\delta+uP]}\ [_{TP}\ DP_{EA}\ T\ [_{vP}\ t_{EA}\ \ v\ (\rightarrow meN\text{-})\ [_{VP}\ V\ PP^{[\delta]}\ ]\ ]\ ]\ ]$

Assuming that vP is not a phase, the PP in (27) undergoes one-fell-swoop movement to [Spec,CP] without the need for an intermediate landing site in [Spec,vP]. This is of course in line with the observation that the form of v does not change—it is *meN-*, just as if no extraction had taken place. Removing vP phases from the analysis thus paves the way for a tighter link between the morphological form of v and the existence of movement through [Spec,vP]: *meN-* is absent if and only if an element moves to an outer [Spec,vP] (i.e., in the object voice).

Due to the intervention-based nature of the account, it is not a coincidence that only DP extraction is subject to the restriction while non-DP extraction is not. An intervention problem arises only if the intervening element is a partial match for the attracting probe. Because the intervening ele-

[9] Our thanks to an anonymous reviewers for pointing this out. Legate (2011, 2014) proposes a related account for Acehnese, according to which the *yang* C contains both A- and Ā-features. The A-features are not inherited to T (so-called 'under-inheritance'), and so a wh-subject DP can satisfy both while a PP cannot.

[10] While the distinction between (26a) and (26b,c) is independently motivated, we are not aware of analogous independent evidence for the distinction between (26b) and (26c). A potential alternative account, proposed by Branan & Erlewine (2024), is to replace (26b,c) with a non-composite probe in (i).

(i) $C_{\emptyset}$: [$u\delta$]

Because (i) is a flat probe, there can never be a partial match for it: any element that bears [δ] will fully match it. The key challenge for such an account lies in preventing (i) from triggering DP movement (if this was possible, DP extraction should not be subject to DP intervention either). Branan & Erlewine (2024) propose that Ā-extracted DPs are subject to a special (case) licensing requirement that only the *yang* complementizer (26a) can satisfy. But this account is not entirely straightforward—most importantly, if DPs need to be licensed by (26a), then it is not obvious why DPs that do not undergo Ā-movement do not lead to ungrammaticality. For this reason, we will not adopt Branan & Erlewine's (2024) account here.

ment (i.e., the EA) is a DP, it follows that DP extraction is subject to the restriction whereas non-DP movement is not. As far as we can see, such a rationale is not available on a vP-phase account.

The DP-intervention account thus provides a closer fit to the distribution of the extraction restriction than an account in terms of vP phases. The restriction arises if a moving element has to cross over an element of the same category. This does not correlate with vP. First, the restriction arises with elements outside of vP domains if there is a higher DP (EA extraction in object voice). Second, there is no restriction with some elements in vP domains (PPs).

We draw a number of conclusions from this discussion. First, there is clear overlap in the empirical effects of vP phases and DP intervention: in particular, both rule out IA extraction in the active voice. But while a DP-intervention account extends to the extraction restriction in the object voice, a vP-phase account does not (at least unless additional assumptions are made). While it is in principle possible to combine DP-intervention with vP phases (see, e.g., Aldridge 2004), this is not necessary for at least the data considered here: DP intervention makes superfluous additional appeal to vP phasehood. This raises the question to what extent apparent effects of vP phases may be rethought as effects of DP intervention more generally.

Second, the SI discussion showed that DP intervention may result in successive cyclicity. Because C may only attract the closest DP, only an element in [Spec,TP] may be Ā-extracted; and because T as well may only attract the closest DP, only an element in the outermost [Spec,vP] may become the subject. The result is successive cyclicity: an Ā-extracted DP must pass through [Spec,TP], and, if it is base-generated below v, through [Spec,vP] as well. Thus, while successive cyclicity is typically analyzed in terms of phasehood, DP intervention may give rise to it as well.

SI wears the DP-intervention restriction on its sleeves: extraction of a DP other than the highest one is ill-formed. The next two sections consider systems that are more nuanced—extraction of DPs other than the highest one are well-formed, but it requires a special morphological reflex. While it thus appears as if these systems are not subject to DP intervention, we argue that in fact they are, and that the morphological reflex is the result of DP intervention. The next two sections develop this line analysis for Dinka and Defaka. The basic analytical intuition is that C in these languages is subject to DP intervention, but that in these languages the head that hosts the subject (e.g., T) is equipped with a second feature that permits movement of a lower DP over the subject (so-called *leapfrogging*), thus putting it closest to C and allowing it to undergo Ā-movement. The morphological reflex is then analyzed as the realization of the feature that triggered the leapfrogging. The overall result is successive-cyclic movement over the subject DP that is again the result of DP intervention rather than clause-medial phases.

3. Successive cyclicity in Dinka

One particularly strong and well-developed argument for successive cyclicity through [Spec,vP] and vP phasehood (and thus for clause-internal phasality) is presented by Van Urk (2015, 2018) and Van Urk & Richards (2015) for the Nilotic language Dinka. The argument is two-pronged. First, they argue that extraction has an empty-position effect within the vP; second, such extraction leads to the appearance of the clause-medial marker *ké*. In this section, we argue for a reanalysis of these patterns in terms of DP intervention and leapfrogging rather than vP phases. As in SI, C may only

attract the closest DP, but unlike SI, we propose, Dinka permits the object to move over the subject feeding object Ā-movement.

3.1. Empirical evidence

3.1.1. Empty-position effects

As illustrated in (28), Dinka is a V2 language, with exactly one constituent preceding a verbal element in the second position of the clause (Van Urk 2015, 2018, Van Urk & Richards 2015).

(28) a. Àyén **à-càm** cuḭin nẹ̈ păal.
Ayen 3SG-eat.SV food P knife
'Ayen is eating food with a knife.'

b. Cuḭin **à-cɛ́ɛm** Áyèn nẹ̈ păal.
food 3SG-eat.OV Ayen.GEN P knife
'Food, Ayen is eating with the knife.'

c. Păal **à-cɛ́ɛmẹ̈** Áyèn cuḭin.
knife 3SG-eat.OBLV Ayen.GEN food
'With a knife, Ayen is eating food.' [Van Urk 2015:61, ex. (2)]

Dinka also exhibits a voice system, in that the verbal element in C (either the main verb or an auxiliary) takes one of three voices depending on the element in [Spec,CP]: "subject voice" (SV) if the element is the local subject (28a), "object voice" (OV) if it is an object or nonlocal subject (28b), and "oblique voice" (OBLV) if it is a PP or oblique (28c). If the element in the V2 position is an auxiliary, PPs and obliques can trigger either oblique voice or object voice (Van Urk 2015:70). See Van Urk (2015) and Erlewine et al. (2017) for further discussion.[11]

Turning to the Dinka vP, Van Urk (2015, 2018) and Van Urk & Richards (2015) argue that here too we find a V2 property such that exactly one constituent precedes the verb in the vP. For example, in a transitive clause, the object must occur in a preverbal position, as shown in (29).

(29) a. Ɣɛ̂ɛn cɛ̱ mìir tḭ̈ŋ.
I PFV giraffe see
'I saw a giraffe.'

b. *Ɣɛ̂ɛn cɛ̱ ____ tḭ̈ŋ mìir.
I PFV see giraffe
'I saw a giraffe.' [Van Urk & Richards 2015:122, ex. (14)]

If the vP is ditransitive, one of the two objects must occupy the preverbal position, as (30a–b) illustrates. It is not possible for both objects to occur postverbally (30c–d), nor is it possible for both objects to occur preverbally (30e–f).

[11] Van Urk & Richards (2015) refer to the "object voice" as "nonsubject voice". For consistency, we have unified the glossing to use the term "object voice" throughout, following Van Urk (2015, 2018) and Erlewine et al. (2017). Van Urk (2015) and Erlewine et al. (2017) take the subject voice to be the default voice, and so it is not always glossed in the examples. See fn. 23 for an analysis of this voice marking within the overall account proposed here.

(30) a. Ɣɛ̂ɛn cɛ̱́ Ayén yiɛ̱́n kìtáp.
I PFV Ayen give book
'I gave Ayen a book.'

b. Ɣɛ̂ɛn cɛ̱́ kìtáp yiɛ̱́n Ayén.
I PFV book give Ayen
'I gave a book to Ayen.'

c. *Ɣɛ̂ɛn cɛ̱́ ____ yiɛ̱́n kìtáp Ayén.
I PFV give book Ayen

d. *Ɣɛ̂ɛn cɛ̱́ ____ yiɛ̱́n Ayén kìtáp.
I PFV give Ayen book [Van Urk & Richards 2015:122–123, ex. (15), (16)]

e. *Ɣɛ̂ɛn cɛ̱́ kìtáp Ayén yiɛ̱́n.
I PFV book Ayen give

f. *Ɣɛ̂ɛn cɛ̱́ Ayén kìtáp yiɛ̱́n.
I PFV Ayen book give [Van Urk & Richards 2015:122n11, ex. (i)]

If there is no object, the preverbal position is empty. Adjuncts must appear postverbally, as in (31).

(31) a. Wɔ̂ɔk cɛ̱́ ____ kɛ̂ɛt dòm-íc.
we PFV sing garden-in
'We sang in the garden.'

b. *Wɔ̂ɔk cɛ̱́ dòm-íc kɛ̂ɛt.
we PFV garden-in sing
'We sang in the garden.' [Van Urk & Richards 2015:123, ex. (17)]

Van Urk (2015, 2018) and Van Urk & Richards (2015) analyze this preverbal position as [Spec,vP], which is filled by moving exactly one object if one exists. We will maintain their core proposals that there is object raising in vP, but we will locate the landing site of this movement lower than v. For now, we will simply refer to this position as the "preverbal position".

Ā-movement interacts with these positions. First, Ā-movement empties every [Spec,CP] along the movement path, as shown in (32). Second, if the moving element is a DP, every preverbal position along the movement path must be empty as well, see (33) and (34). As (33a) and (34a) show, it is possible for movement to target the preverbal object in a ditransitive configuration. By contrast, (33b) and (34b) show that it is not possible to move the postverbal DP.

(32) a. **Yeŋà** cʊ̱́kkʊ̱̀ luéel, [$_{CP}$ ____ cɛ̱́ kìtáp ɣɔ̀ɔc]?
who PFV.1PL say PFV book buy.TR
'Who did we say bought a book?'

b. ***Yeŋà** cʊ̱́kkʊ̱̀ luéel, [$_{CP}$ kìtáp (à-)cɛ̱́i ɣɔ̀ɔc]?
who PFV.1PL say book (3SG-)PFV.OV buy.TR
'Who did we say bought a book?' [Van Urk & Richards 2015:125, ex. (21a,b)]

(33) a. **Yeŋà$_1$** cɻ̈i môc [____$_1$] yiɛ̱n kìtáp?
who PFV.OV man.GEN give book
'Who did the man give the book to?'

b. ***Yeŋǫ́$_1$** cɻ̈i môc [Ayén] yiɛ̱n ____$_1$?
what PFV.OV man.GEN Ayen give
'What did the man give Ayen?' [Van Urk & Richards 2015:125, ex. (20a,d)]

(34) a. **Yeŋǫ́$_1$** cɻ̈i môc [____$_1$] yiɛ̱n Ayén?
what PFV.OV man.GEN give Ayen
'What did the man give Ayen?'

b. ***Yeŋà$_1$** cɻ̈i môc [kìtáp] yiɛ̱n ____$_1$?
who PFV.OV man.GEN book give
'Who did the man give the book to?' [Van Urk & Richards 2015:125, ex. (20b,c)]

Van Urk (2015, 2018) and Van Urk & Richards (2015) analyze both effects in terms of phases. (32) follows from CP phases. And based on the analysis of the preverbal position as [Spec,vP], they attribute (33) and (34) to vP phases: only an object that has shifted to [Spec,vP] is accessible for further movement to [Spec,CP]. One-fell-swoop extraction as would be necessary in (33b) and (34b) is therefore ruled out.[12] Notably, however, [Spec,CP] and the preverbal position do not behave alike in all respects. PP extraction (to be discussed below) empties intermediate [Spec,CP], just as DP extraction does (see Van Urk 2015:133 and Van Urk & Richards 2015:125–126), but PP extraction does *not* empty an intermediate preverbal position, a point to which we return (see (45)).

3.1.2. *Ké*-morphology

In addition to this empty-position effect, Ā-extraction out of vP in Dinka yields special morphology, as investigated in detail by Van Urk (2015), Van Urk & Richards (2015), and in particular Van Urk (2018). With the exception of local subjects, whenever a plural element is moved out of vP in Dinka, the element *ké* (or *kêek*) must appear to the left of every verb that is crossed by the movement. This element is homophonous with (and, depending on the analysis, identical to) the 3rd person plural pronoun. The appearance of *ké* is illustrated in (35), where Ā-movement of *yeyíŋà* 'who.PL' and *kêek* 'them' requires a preverbal *ké,* which is impossible in the absence of such movement.

(35) *Object Ā-movement triggers* ké

a. **Yeyíŋà** cɻ̈i Bôl **ké** tɻ̈ŋ?
who.PL PFV.OV Bol.GEN PL see
'Who all did Bol see?' [Van Urk & Richards 2015:127, ex. (23b)]

b. **Kêek** áa-cɻ̈i Áyèn **ké** tɻ̈iŋ.
them 3PL-PFV.OV Ayen.GEN PL see.NFIN
'Them, Ayen has seen.' [Van Urk 2018:947, ex. (19c)]

[12] Note that this analysis requires that *yeŋǫ́* 'what' in (33b) and *yeŋà* 'who' in (34b) cannot pass through a second [Spec,vP] on their way to [Spec,CP], a restriction that the theory in Van Urk (2015) and Van Urk & Richards (2015) derives.

Van Urk (2015, 2018) shows that *ké* is associated with movement and not a resumptive pronoun in the standard sense. First, resumptive pronouns in Dinka are normally limited to PP positions (Van Urk 2015:151–154). Second, displacement with *ké* still shows island sensitivity and allows for reconstruction of the displaced element (Van Urk 2018:951–952). Third, genuine resumptive pronouns are not limited to plural DPs (like *ké* is) but appear with singular DPs as well (Van Urk 2015:77, 152). We therefore follow Van Urk (2015, 2018) in treating *ké* as the reflex of a movement dependency.

Ké is φ-sensitive in that it only appears if the moving element is plural, as (36) demonstrates, where the corresponding 3SG element *yé(en)* may not occur and *ké* would also be ungrammatical.[13]

(36) *Movement of singular DPs does not trigger a corresponding SG marker*
Yè **ŋà** cɻ̈i Bôl (***yé(en)**) tɻ̈iŋ?
Q who PFV.OV Bol.GEN (*3SG) see.NFIN
'Who has Bol seen?' [Van Urk 2018:940–941, ex. (5)]

Extracted 1st and 2nd person plural DPs likewise trigger *ké*:

(37) *Ā-movement of 1st/2nd plural DP triggers* ké
Wɔ̂ɔk/**Wêek** cɻ̈i Áyèn **ké** tɻ̈iŋ.
1PL/2PL PFV.OV Ayen.GEN PL see.NFIN
'Us/You all, Ayen has seen.' [Van Urk 2015:225, ex. (62a,b)]

The appearance of *ké* exhibits the hallmark property of successive cyclicity: it appears in every clause that is crossed by movement, as shown in (38).

(38) ké *appears in every clause crossed by movement*
Yeyíŋà yɻ̈ **ké** tâak, [$_{CP}$ cɻ̈i Bôl **ké** tɻ̈iŋ]?
who.PL HAB.2SG PL think PFV.OV Bol.GEN PL see
'Who all do you think Bol saw?' [Van Urk & Richards 2015:128, ex. (25b)]

(38) also shows that the marker *ké* is restricted to the clause-medial region—it cannot appear in C or [Spec,CP] (Van Urk 2018:974–976).

There is furthermore a subject-object asymmetry in that Ā-extraction of a local subject does not lead to *ké,* as (39) shows. But in crossclausal Ā-extraction of a plural subject, *ké* appears in higher clauses, as in (40).

[13] Van Urk (2015) and Van Urk (2018) gloss the *yè* in (36) as the copula ('be' and 'be.3SG', respectively), and they analyze these constructions as clefts. By contrast, Van Urk & Richards (2015) gloss this element (written as *ye*) as a focus particle or Q particle (glossed as 'Q') in the sense of Hagstrom (1998) and Cable (2007, 2010). Coppe van Urk (p.c.) confirms to us that these are the same element. While the proper analysis of this element does not matter for our account, we will gloss it uniformly as 'Q' here. First, as noted by Van Urk & Richards (2015:117n4), the syntax of these constructions clearly differs from clefts in Dinka, and they do not have the semantics of clefts (in particular, they do not induce a uniqueness presupposition). Second, the element cannot bear past tense morphology (Coppe van Urk, p.c.), which would be surprising for a copula and cleft construction.

(39) *Ā-movement of local subject does not trigger* ké

Rɔ̰̰ɔ̰̰r áa-cɛ̰̰ (***ké***) yḭ̰in tḭ̰iŋ.
men 3PL-PFV (*PL) you see.NFIN
'The men have seen you.' [Van Urk 2018:950, ex. (25a)]

(40) *Ā-movement of nonlocal subject triggers* ké *in higher clauses*

Rɔ̰̰ɔ̰̰r áa-yṵ̰ṵ̰kṵ̰ **ké** tàak [$_{CP}$ cɛ̰̰ (***ké***) yḭ̰in tḭ̰iŋ].
men 3PL-be.1PL PL think.NFIN PFV (*PL) you see.NFIN
'The men, we think have seen you.' [Van Urk 2018:950, ex. (26a)]

Finally, adjuncts that contain a plural DP also trigger *ké.* This is shown in (41a,b) for movement of *thɛ̀ɛk-kɔ̀* '(at) which times' and *piṵ̰ kê-dí* '(with) how much water', respectively.

(41) *Ā-moved adjunct PPs trigger* ké

a. Yè **thɛ̀ɛk-kɔ̀** cɛ̰̰i Bôl **ké** bɔ̰̰ jàa̰̰l?
Q times-which PFV.OV Bol.GEN PL go.NFIN leave.NFIN
'At which times has Bol left?' [Van Urk 2015:218, ex. (49a)]

b. Ye **piṵ̰** **kê-dí** cɛ̰̰i Bôl **ké** bàmbèe thàal?
Q water much-how PFV.OV Bol.GEN PL sweet.potatoes cook.TR
'With how much water did Bol cook sweet potatoes?'
[Van Urk & Richards 2015:130, ex. (30b)]

Note that (41b) shows that *ké* is not always immediately preverbal. If the verb takes a preverbal object (*bàmbèe* 'sweet potatoes' in (41b)), *ké* appears to the left of this object.

In the next section, we briefly present the vP-phase-based analysis of *ké* developed by Van Urk (2015, 2018) and Van Urk & Richards (2015). We then explore an alternative account of the pattern that attributes it to DP intervention rather than vP phasehood.

3.2. vP-phase account

As mentioned, Van Urk (2015, 2018) and Van Urk & Richards (2015) treat the preverbal object position as [Spec,vP]. By assumption, v has an EPP property, and so [Spec,vP] must be occupied if possible, triggering movement of an object to [Spec,vP]. The observation that only an object in this preverbal position may undergo Ā-extraction (see (33) and (34)) is then attributed to vP phasehood and the PIC: only an object moved to [Spec,vP] is located at the vP phase edge and hence accessible for Ā-extraction. Furthermore, Van Urk (2015, 2018) and Van Urk & Richards (2015) propose that *ké* is the realization of an intermediate copy in [Spec,vP]. The fact that object fronting leads to *ké* is then also attributed to vP phases because such fronting necessitates a landing site in [Spec,vP], realized as *ké* is the element is plural.

This account is elegant and insightful, and it constitutes strong evidence for obligatory successive cyclicity, and vP phases provide a potential. Nevertheless, the account faces a number of challenges. One problem is that Ā-extraction of a local external argument does not lead to *ké* (see (39)). This is surprising because an external argument base-generated in [Spec,vP] will leave a copy in [Spec,vP] if it undergoes movement. This copy in [Spec,vP] should then be realized as *ké,* just like an object copy

in [Spec,vP], but it is not. Van Urk (2018:943n5) briefly discusses this challenge and suggests two possible analyses. One is that the external argument is not actually base-generated in [Spec,vP], but in a higher specifier (see also Van Urk 2015:81–82), in contrast to the standard assumption that it is vP that introduces the external argument. The other analysis suggested by Van Urk is that only copies of elements that appear in [Spec,vP] as a result of attraction by (i.e., Agree with) v are realized as *ké*. This analysis raises the question how the morphological realization of a copy in [Spec,vP] can be conditioned by whether Merge of this copy was the result of attraction by v or not. While these complications are of course surmountable, it seems clear that resolving them increases the complexity of the account. What is most significant for our purposes here is that the asymmetry between subjects and objects (with only objects leading to *ké*) does not follow from the vP-phase account as such but requires additional assumptions. In other domains (such as Defaka, to be discussed in section 4), the existence of a subject–object asymmetry is the key motivation for invoking a clause-medial phase, but at least in Dinka, this asymmetry itself does not seem to directly implicate such a phase.

A second complication concerns the status of unaccusative vP. In Dinka, Ā-extraction of an internal argument of an unaccusative verb does not lead to *ké,* as shown in (42), where movement of *pɛ̌ɛɛl-kó* 'which knives' does not leave a *ké*.

(42) *Argument movement out of unaccusative vP does not lead to* ké
Yè **pɛ̌ɛɛl-kó** bḛ̱ (***ké**) dhuôoŋ?
Q knives-which FUT (*PL) break.NFIN
'Which knives will break?' [Coppe van Urk, p.c.]

At first glance, this restriction might be taken to indicate that unaccusative vP is not a phase and hence that there is no intermediate copy in [Spec,vP] (Chomsky 2000, 2001, contra Legate 2003).[14] However, Ā-extraction of an adjunct out of such vPs does lead to *ké,* as (43) demonstrates, where movement of *thɛ̀ɛk-kó* 'at which times' leads to *ké*.

(43) *PP-adjunct movement out of unaccusative vP leads to* ké
Yè **thɛ̀ɛk-kó** bi̱i pɛ̀ɛl **ké** dhuôoŋ?
Q times-which FUT.OV knives PL break.NFIN
'At which times will the knives break?' [Van Urk 2015:168, ex. (81)]

If *ké* is the realization of an intermediate copy in [Spec,vP], as Van Urk & Richards (2015) and Van Urk (2015, 2018) argue, the distribution of *ké* in (42) and (43) would seem to suggest that arguments of unaccusatives must exit vP in one-fell-swoop whereas adjuncts must do so successive-cyclically. vP phases themselves do not account for this difference. This holds regardless of whether

[14] In addition to the empirical point in the main text, it is worth noting that the criterion that phases are propositional units (Chomsky 2000:107, 2001:12) does not differentiate between agentive and unaccusative vPs as both are Θ-complete. Chomsky (2001) thus proposes that unaccusative vP is a "weak" phase, which does not induce PIC effects. This distinction between "weak" v and "strong" v does not follow from anything else. Hence, if the absence of *ké* in (42) is attributed to vP being weak here, this is itself a stipulation, and furthermore one that seems to have no counterpart in the CP phase. As we will see, the shift from vP phases to DP intervention will allows us to dispense with the strong/weak distinction for phases, thereby eliminating the stipulation.

unaccusative vP is treated as a phase or not, simply because (42) and (43) involve the same unaccusative vP.[15]

The absence of *ké* in (42) also poses a problem for the analysis of why external arguments do not trigger *ké*. As just discussed, Van Urk (2018) sketches two possible approaches to the latter generalization: either (i) the external argument is generated outside of vP or (ii) only copies in [Spec,vP] that are the result of *movement* are realized as *ké*. Neither account derives the fact that unaccusative subjects also do not lead to *ké* because they are clearly generated vP-internally and must move to [Spec,vP] if this vP is a phase. As we show in section 3.3, an account of *ké* in terms of DP intervention generalizes more naturally to the unaccusative facts.

Third, DP extraction and PP extraction differ in whether they require the preverbal position to be empty. As shown again in (44), extraction of a DP argument requires the preverbal position to be empty, which Van Urk (2015) and Van Urk & Richards (2015) take as evidence for an obligatory intermediate landing site in [Spec,vP]. But PP extraction is permitted even if this position is filled (Van Urk & Richards 2015:129–130, Van Urk 2015:169), as shown in (45), which Van Urk & Richards (2015) analyze as involving Ā-movement of a PP (see Van Urk 2015 for additional discussion).

(44) *DP extraction requires empty preverbal position (repeated from (33a), (34b))*

a. Yeŋà$_1$ cí̤i môc [____$_1$] yi̤e̤n kìtáp?
who PFV.OV man.GEN give book
'Who did the man give the book to?'

b. *Yeŋà$_1$ cí̤i môc [kìtáp] yi̤e̤n ____$_1$?
who PFV.OV man.GEN book give
'Who did the man give the book to?' [Van Urk & Richards 2015:125, ex. (20a,b)]

[15] One potential analytical direction is to assume that only a copy in [Spec,vP] left by Ā-movement is realized as *ké* (many thanks to Coppe van Urk and Julie Legate for discussion). On this account, *pɛ̌ɛɛl-kó* 'which knives' in (42) would pass through [Spec,vP] but because it subsequently A-moves to [Spec,TP] prior to Ā-movement, this copy would remain unpronounced. In principle, this is a viable alternative, but it raises further analytical questions, at least in the context of Van Urk's (2015, 2018) account of *ké*. Van Urk (2015, 2018) proposes (building on Richards 2001, 2016, Boeckx 2003, and Landau 2007) that the realization of the copy in [Spec,vP] as *ké* is the result of a *spell-out instruction* associated with [Spec,vP]. Because this spell-out requirement is an inherent property of this position, it should not matter to this requirement whether the copy in this position is left behind by movement to [Spec,TP] or to [Spec,CP], and *ké* should appear with both.

A variant of this account, suggested by Coppe van Urk (p.c.), would be to assume, following Van Urk & Richards (2015) and Van Urk (2015), that v bears an A- and an Ā-feature that can result in movement to [Spec,vP], but that only the Ā-feature imposes a spell-out instruction on the position it creates. If it is furthermore assumed that movement that is triggered by an Ā-feature cannot be followed by movement that is triggered by T's A-feature, movement of *pɛ̌ɛɛl-kó* 'which knives' to [Spec,vP] in (42) would have to be triggered only by v's A-feature and hence not result in a pronounced copy in [Spec,vP]. This account would seem to require lookahead or transderivationality because in order to determine what feature triggers movement to [Spec,vP] in any given structure, it would be necessary to know whether or not the attracted element will undergo A-movement at a later stage of the derivation (it is not sufficient to simply make checking of the Ā-feature optional, as then *ké* would be optional in simple cases of object Ā-movement; rather, checking of the Ā-feature on v must be required *unless* the DP subsequently moves to [Spec,TP]). In addition, this account also seems to require access to previous steps of the derivation: whether or not T can attract a DP in [Spec,vP] must depend on whether v's Ā-feature was involved in moving this DP to [Spec,vP].

(45) *PP extraction does not require empty preverbal position*

a. Yeŋǫ́$_1$ cíi yìn kǫ̀ǫ̀r nɔ̀ɔ̀k ____$_1$?
what PFV.OV you lion kill
'What did you kill a lion with?'

b. Yétenô$_1$ cénnɛ̀ Bôl Dèŋ tuɔ̀ɔc ____$_1$?
where PFV.OBLV Bol.GEN Deng send
'Where did Bol send Deng?' [Van Urk & Richards 2015:130, ex. (29b,c)]

Van Urk & Richards (2015) and Van Urk (2015) take the empty-position effect in (44) as evidence that Ā-extraction must pass through [Spec,vP]. Taken at face value, the absence of such a gap with PP extraction in (45) would then seem to suggest that PP extraction does *not* need to pass through [Spec,vP] (recall that PP extraction leads to *ké* if the head noun is plural (41), which on Van Urk & Richards's 2015 and Van Urk, Van Urk's 2015, 2018 analysis of *ké* entails that these PPs must originate vP-internally). This would constitute evidence *against* vP phases because vP phases would constrain DP and PP movement in the same way. To resolve this paradox, Van Urk (2015) and Van Urk & Richards (2015) propose that PP extraction as in (45) does pass through an intermediate [Spec,vP] but for PPs, this intermediate [Spec,vP] is an outer [Spec,vP], which coexists with a DP in an inner [Spec,vP] (*kǫ̀ǫ̀r* 'lion' and *Dèŋ* 'Deng', respectively). DP extraction, on the other hand, cannot pass through an outer [Spec,vP] and so the preverbal position must remain empty in (44) (this difference is derived from Van Urk & Richards's 2015:132 *Multitasking* principle or Van Urk's 2015:173 *Best Match*). While this is a feasible and insightful analysis, the fact remains that empirically, the empty-position effect that constituted part of the argument for vP phases fails to obtain for PP extraction. Notably, Van Urk (2015:133) and Van Urk & Richards (2015:125–126) show that PPs results in an empty-position effect at CP, a clear asymmetry in the locality effects of CP and vP.

Fourth, if *ké* is analyzed the realization of a lower copy, it is somewhat surprising that only copies in [Spec,vP] are realized in this way, but not intermediate copies in [Spec,CP]. This account thus requires an additional stipulation to prevent copies in [Spec,CP] from being realized as *ké* (Van Urk 2018:975–976 appeals to impoverishment in CP).

3.3. DP-intervention analysis

Because Van Urk's (2015, 2018) and Van Urk & Richards's (2015) argument for vP phases in Dinka involves (a) an empty-position effect (section 3.1.1) and (b) *ké*-morphology (section 3.1.2), our alternative analysis will need to address both.

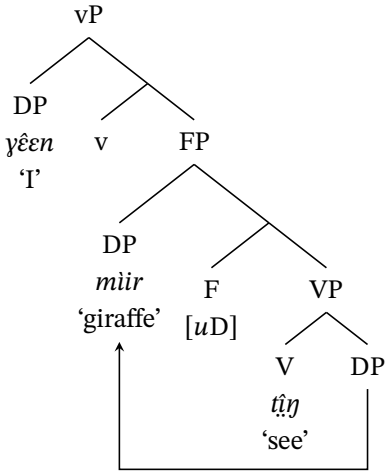
3.3.1. Proposal

We first consider the second-position effect in the vP. As we saw, if the vP contains an object, one and only one object must occur in the preverbal position (30). Van Urk & Richards (2015) and Van Urk (2015, 2018) analyze this preverbal position as [Spec,vP] and attribute object raising to [Spec,vP] being an EPP position. One question that arises on this account concerns the status of the external argument, in particular why the external argument does not satisfy v's EPP requirement, obviating the need for object raising. Here, we maintain Van Urk & Richards's (2015) and Van Urk's (2015, 2018) insight that there is object raising within the vP, but we take the fact that the external argument is irrelevant for this raising to show that object raising does not in fact target [Spec,vP], but a lower spec-

ifier (see Baker 1988, 1997, Larson 1988, Aoun & Li 1989, Johnson 1991, Chomsky 1993, Bobaljik 1995, Baker & Collins 2006, Deal 2013, and others for low object-raising positions of this general kind).[16] The precise identity of the projection targeted by object raising is immaterial, as long as it is below v. In lieu of a better name, we call this projection "FP". The resulting structure of a transitive vP like (46) is given in (47). Because the relevant EPP-feature on F ([*u*D]) is below v, the external argument does not interact with it.

(46) Ɣɛ̂ɛn cɛ̱ mìir tɪ̱ŋ.
I PFV giraffe see
'I saw a giraffe.' [Van Urk & Richards 2015:122, ex. (14a)]

(47)



This object-raising step is largely orthogonal to our key proposal that the extraction restriction is due to DP intervention. What is crucial is that the preverbal object position is the highest object position within vP. Whether this position is the result of object raising or not is immaterial for the rest of the account. We nonetheless incorporate object raising in order to facilitate comparison with Van Urk & Richards's (2015) and Van Urk's (2015, 2018) vP-phase account, which assumes such object raising. One piece of evidence for object raising comes from auxiliaries lower than the highest one. As discussed by Andersen (2007) and Van Urk (2015:84–86), such auxiliaries appear between the object and the main verb, as illustrated with the future auxiliary *bɛ̱́* in (48).

(48) Yɪ̱in cɛ̱ mìir bɛ́ tɪ̱iŋ.
you NEG giraffe FUT see.NFIN
'You will not see a giraffe.' [Van Urk 2015:84, ex. (52a)]

[16] As such, the landing site of object movement in Dinka appears to be similar to object raising in English, as seen with particle verbs. Johnson (1991) proposes an account of (i) that involves movement of *the reference*, followed by V-raising around it, stranding *up*. Assuming that main verbs do not raise higher than v in English, as is standard, the object movement must therefore target a position between VP and vP. Our proposal for object raising in Dinka is essentially the same, except that the process is obligatory and no V-raising to v takes place.

(i) a. Mary looked the reference up.
b. Mary looked$_1$ [the reference]$_2$ [t_1 up] t_2.

Van Urk (2015) and Van Urk & Richards (2015) propose that such auxiliaries are restructuring verbs that embed a VP. Due to object raising, the object undergoes movement above them. This insight is compatible with the structure in (47): *bḛ́* projects a second VP shell between FP and the main-verb VP:

(49) $[_{vP}$ yì̱in v^0 $[_{FP}$ mìir$_1$ $F^0_{[uD]}$ $[_{VP}$ bḛ́ $[_{VP}$ tɨ̀ŋ t_1]]]]
you giraffe FUT see

As indicated in (47) and (49), we assume that object raising is triggered by a [uD] feature on F. This accounts for the fact that PPs cannot undergo this movement (see (31)). It also predicts that only the structurally highest DP below F may undergo object raising. At first glance, this appears problematic because in ditransitives, either object can occur in the preverbal position:

(50) a. Ɣɛ̂ɛn cḛ́ Ayén yiḛ̀n kìtáp.
I PFV Ayen give book

b. Ɣɛ̂ɛn cḛ́ kìtáp yiḛ̀n Ayén.
I PFV book give Ayen
'I gave Ayen a book.' [Van Urk & Richards 2015:124–125, ex. (19)]

But Van Urk's (2015:151–154) argues that structures like (50a,b) derive from different base configurations: structures like (50a) derive from an applicative structure, whereas structures like (50b) derives from a PP-object construction. Incorporating these insights into our FP account yields the structures in (51) and (52).

(51) *Structure for (50a) (based on Van Urk 2015:153)*

$[_{vP}$ ɣɛ̂ɛn v^0 $[_{FP}$ Ayén $F^0_{[uD]}$ $[_{ApplP}$ t] $Appl^0$ $[_{VP}$ yiḛ̀n kìtáp]]]]
I Ayen give book

(52) *Structure for (50b) (based on Van Urk 2015:154)*

$[_{vP}$ ɣɛ̂ɛn v^0 $[_{FP}$ kìtáp $F^0_{[uD]}$ $[_{VP}$ t] yiḛ̀n $[_{PP}$ P^0 Ayén]]]]
I book give Ayen

Against the background of these assumptions about the structure of vP in Dinka, we now turn to the extraction restrictions. Just as for SI, the analysis is based on the guiding view that there is no clause-medial phase and that C in Dinka may only attract the structurally closest DP. Because Dinka is a V2 language and movement to [Spec,CP] is hence obligatory, we will adopt what seems like the simplest implementation: C bears an EPP property that does not search for elements with a specific Ā-feature but is instead matched by any DP. The requirement that C attract the closest goal then leads to (53), which is basically an instance of relativized minimality (Rizzi 1990) in Dinka. Alternatively, C in Dinka could contain a complex probe akin to what we proposed for SI (Erlewine 2018, Coon et al. 2021, Branan & Erlewine 2024). But the V2 character of C in Dinka makes a simpler, purely EPP-based account viable, which we will therefore adopt here.

(53) Dinka C bears an [EPP] feature that may attract only the structurally closest DP.

At first glance, (53) appears empirically incorrect. Clearly, it is possible for elements other than the local subject (which is structurally closest to C) to occupy [Spec,CP]. But it is precisely in such cases that *ké* must appear, which suggests that the two are connected. We thus propose that such cases involve leapfrogging: the lower DP first moves across the subject, after which it can be attracted by C. We then analyze *ké* as the reflex of the probe that gives rise to this leapfrogging. Thus, while both Dinka and SI require C to attract the closest DP, the availability of this inversion mechanism in Dinka has the effect that (i) Dinka does not exhibit a subject-only extraction pattern, and (ii) non-subject extraction is associated with special morphology.

To develop this idea, we assume, following Van Urk (2015), that subjects undergo movement to [Spec,TP] in Dinka. Van Urk (2015:86–87) shows that subjects that occur in the middle field (that is, subjects that do not raise to [Spec,CP]) follow the verb in the V2 position, irrespective of whether the verb is unaccusative, unergative, or transitive, as illustrated in (54).

(54) a. Bɛ̱ **lɛ̱̀c** dhuôoŋ?
FUT.SV stick.GEN break.NFIN
'Will the stick break?'

b. Bɛ̱ **Bôl** càm (ɛ̀ cuḭ̱in)?
FUT.SV Bol.GEN eat.ANTIP.NFIN P food
'Will Bol eat food?' [Van Urk 2015:86–87, ex. (55a,c)]

Furthermore, this position of the subject precedes vP-level adverbs such as *dâac* 'quickly':

(55) Bɛ̱ **lɛ̱̀c** dâac dhuôoŋ?
FUT.SV stick.GEN quickly.NFIN break.NFIN
'Will the stick break quickly?' [Van Urk 2015:87, ex. (56a)]

Thus, following Van Urk (2015:87), we assume that subjects move to [Spec,TP] in Dinka. Associating middle-field subjects with a designated position also offers an account of the fact that they appear with genitive case (Van Urk 2015, 2018) (or oblique case, see Andersen 2002, 2007), but objects do not (Van Urk 2015:71–73, 86–89). If genitive case is assigned to elements in [Spec,TP], then the claim that middle-field subjects move to [Spec,TP] provides an immediate explanation for why they uniformly bear genitive case. We therefore assume that T bears a standard [uD] feature that is satisfied by moving a DP into its specifier.[17]

In light of the restriction in (53), movement of an element other than the local subject is possible only if this DP is the closest DP to C. Extraction of a non-subject DP thus requires that this DP first move over the intervening subject, by assumption to an outer [Spec,TP]. For the sake of exposition, we refer to this movement of the object to an outer [Spec,TP] as *leapfrogging*, but it is important to note that it is not a distinct kind of movement. It is simply a movement step that inverts the c-command relations between two arguments, thereby circumventing intervention effects that would

[17] It does not matter for this analysis why or how elements in [Spec,TP] receive genitive case. Perhaps the most straightforward option is that genitive is assigned by T in Dinka and hence correlates with movement to the subject position. Alternatively, Van Urk (2015:86–92) proposes that genitive case is assigned by a silent P head that is late-merged to a DP in [Spec,TP] as a last-resort mechanism to assign case. A third possibility, pointed out to us by a reviewer, is that these clauses are in fact nominalized and genitive case is licensed by this nominalizing structure. Because case does not play a role in our analysis of the *ké*-facts, nothing hinges on the choice between these options.

otherwise arise. Because we will analyze as *ké* as the reflex of the probe that triggers this leapfrogging step, and because *ké* appears only if the leapfrogged element is plural, we propose that the leapfrogging probe is a strong φ-probe [*u*φ] on T.[18] By assumption, [*u*φ] is optionally present on T, and if it is, it probes after [*u*D], hence after movement of the subject to [Spec,TP]. This probe ordering is given in (56) (see, e.g., Müller 2009, Georgi 2014, 2017, and Hoover 2021 for other accounts that involve extrinsic ordering of Merge and Agree features on a single head). [*u*φ] agrees with the closest φ-bearing element c-commanded by T after movement to [Spec,TP], and it attracts this element to an outer [Spec,TP]. Thus, we treat *ké* as the realization of T; specifically, as the realization of plural agreement with [*u*φ], as stated in (57), which is analogous to Van Urk (2018:960, ex. (49)).[19]

(56) *Probe ordering on T*
[*u*D] > ([*u*φ])

(57) /ké/ ↔ [PL]

In contrast to Van Urk (2015, 2018) and Van Urk & Richards (2015), we thus do not analyze *ké* as the realization of an intermediate copy, but rather as agreement on T.[20] We treat the form identity between the pronoun *ké* and the successive-cyclicity marker *ké* as an instance of syncretism: despite the fact that the two are syntactically distinct, they are both realized by the vocabulary item in (57), which realizes a [PL] feature but is underspecified with respect to the part of speech of the node (D vs. T). As such, the identity between the two elements is not an instance of accidental homophony, but it is stated at the level of the vocabulary item, not at the level of the syntactic structure that it realizes. Treating *ké* as an all-purpose plurality marker is in line with Van Urk's (2018:956–960) observation that *k(e)* marks plurality in a wide range of contexts in Dinka, including on particles, possessor agreement, clitics, and demonstratives. Our analysis treats the successive-cyclicity marker *ké* as simply another instance in which a plural feature is realized in this way.

Note that we locate *ké* in a marginally higher projection than do Van Urk & Richards (2015) and Van Urk (2015, 2018) (T instead of the outermost [Spec,vP]). Given the proximity of the two positions, this change is not empirically significant, as far as we can tell. This is because the object is the only element within vP that may precede the verb; adjuncts must attach to the right (Van Urk 2015:79–80), so we cannot test their placement relative to *ké*.

Importantly, *ké* is not triggered by plural subjects. We derive this fact from the ordering of the two probes in (56): [*u*D] must probe first and moves the closest DP to the subject position; [*u*φ], if present,

[18] We use the label "T" as the standard projection that hosts the subject position, with no commitment to it corresponding to Tense.

[19] The marker can also be *kêek* instead of *ké*, apparently without difference in meaning or status (Van Urk 2018:947). Thus, the vocabulary item in (57) may also be /kêek/.

[20] Van Urk (2015:217, 2018:948) notes that treating *ké* as the realization of a verbal head implies a violation of the Head Movement Constraint (Travis 1984) because V2 movement of the main verb must skip *ké*. However, recent work has documented several cases of head movement that violate the Head Movement Constraint (e.g., Rivero 1994, Roberts 1994, Harizanov 2019, Harizanov & Gribanova 2019), and some authors extend such long head movement to V2. For example, Harizanov & Gribanova (2019:500–502) propose an analysis of Danish V2 in which the verb moves to a left-peripheral position, skipping over intervening functional projections, and they propose more generally that only postsyntactic head movement (which V2 movement is not) is subject to the Head Movement Constraint. Similarly, Roberts (1991) proposes an excorporation analysis of V2 (also see Roberts 2010). These analyses can thus be extended to Dinka V2: C attracts the closest verbal element, thus skipping heads like T. Also potentially relevant are particle verbs in Dutch and German, which permit V2 movement of just the verb, stranding the particle (e.g., Zeller 2002).

leads to leapfrogging of the next-higher DP around the subject. Due to (56), [$u\varphi$] becomes accessible only *after* [uD] has been checked. Subject movement to [Spec,TP] therefore cannot check [$u\varphi$]. Furthermore, there are at least two principled explanations for why [$u\varphi$] cannot agree with the subject after raising to [Spec,TP] either. One explanation is to assume that Agree is downward-only (Chomsky 2000, 2001). A probe on T must then agree with an element in its c-command domain, hence within the vP. Because probing by T's [uD] applies before probing by [$u\varphi$], it moves the external argument out of [$u\varphi$]'s c-command domain, and [$u\varphi$] can never agree with the external argument. Thus, Agree between a DP and [uD] bleeds subsequent Agree of this DP with [$u\varphi$] (see also Pietraszko 2023 for relevant discussion). A second, alternative explanation capitalizes on the general property of Dinka that subjects that occur in [Spec,TP] bear genitive case. If φ-Agree is case-discriminating (Bobaljik 2008, Keine 2010, Preminger 2014; and also Schütze 1997 and Rezac 2008) and may not target genitive DPs, then it also follows that [$u\varphi$] cannot be valuated by a subject in [Spec,TP].[21] This second option is compatible with either downward Agree or upward Agree. Either of these accounts is compatible with what is to come (and they are not mutually exclusive), so we will leave the choice open. The key consequence is that [uD] and [$u\varphi$] cannot both agree with the external argument: [uD] attracts the external argument, and because [$u\varphi$] becomes accessible only after [uD] has attracted the subject, it agrees with and attracts the closest φ-bearing element further down.

3.3.2. Application 1: Subject and object extraction

Let us first consider an example in which [$u\varphi$] is absent, which leads to movement of the subject to [Spec,CP] with no *ké*. An example is provided in (58), and the corresponding structure is shown in (59).[22] In line with (47), we assume raising of the object *yï̱in* 'you' to [Spec,FP], but this is not crucial.

(58) **Rɔ̈ɔ̈ɔ̈r** áa-cɛ̈ (***ké**) yï̱in tï̱iŋ.
men 3PL-PFV (*PL) you see.NFIN
'The men have seen you.' [Van Urk 2018:950, ex. (25a)]

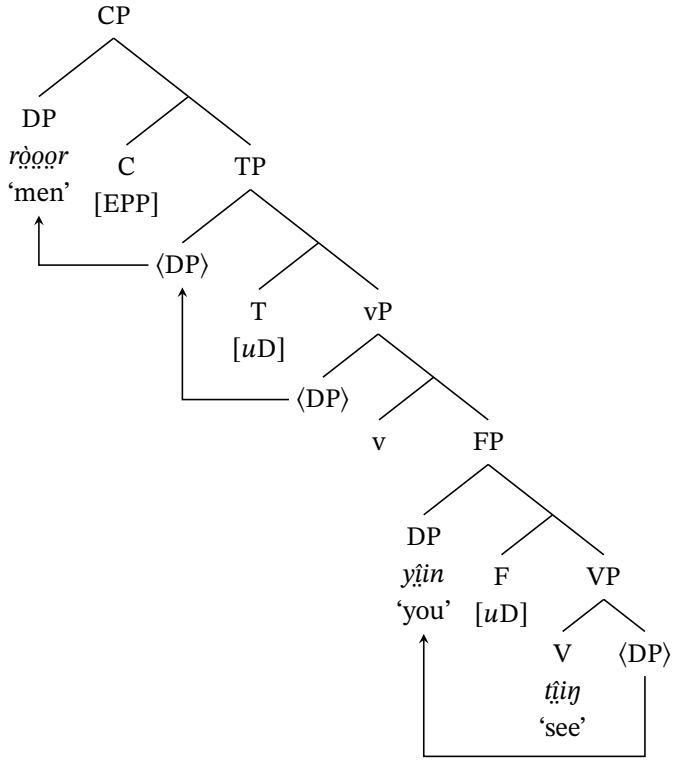
[21] There is an apparent agreement process in Dinka that targets the subject. In, e.g. (i), the auxiliary appears to agree with the null 1SG subject (for other examples, see (32), (38), and (40)).

(i) Mìir à-càa tï̱iŋ.
giraffe 3SG-PFV.1SG see.NFIN
'A giraffe, I have seen.' [Van Urk 2015:103, ex. (20b)]

Van Urk (2015:103) states that such agreement is suffixal, and it is possible only if (i) the subject is pronominal, (ii) not in [Spec,CP], and (iii) not overt. This strongly suggests a cliticization analysis: the 1SG subject pronoun in [Spec,TP] cliticizes onto the auxiliary under adjacency (Van Urk 2015:103, 134). If this process is not φ-agreement, it is unproblematic for the assumptions we make, and it is hence independent of the rest of our account (for the 3SG agreement in (i), see fn. 22).

[22] Note that the element in [Spec,CP] also triggers agreement on the auxiliary in C in (58) (see Van Urk 2015:102–103). We assume that this agreement is established with C and hence independent of the extraction restriction.

(59) *Derivation of (58)*



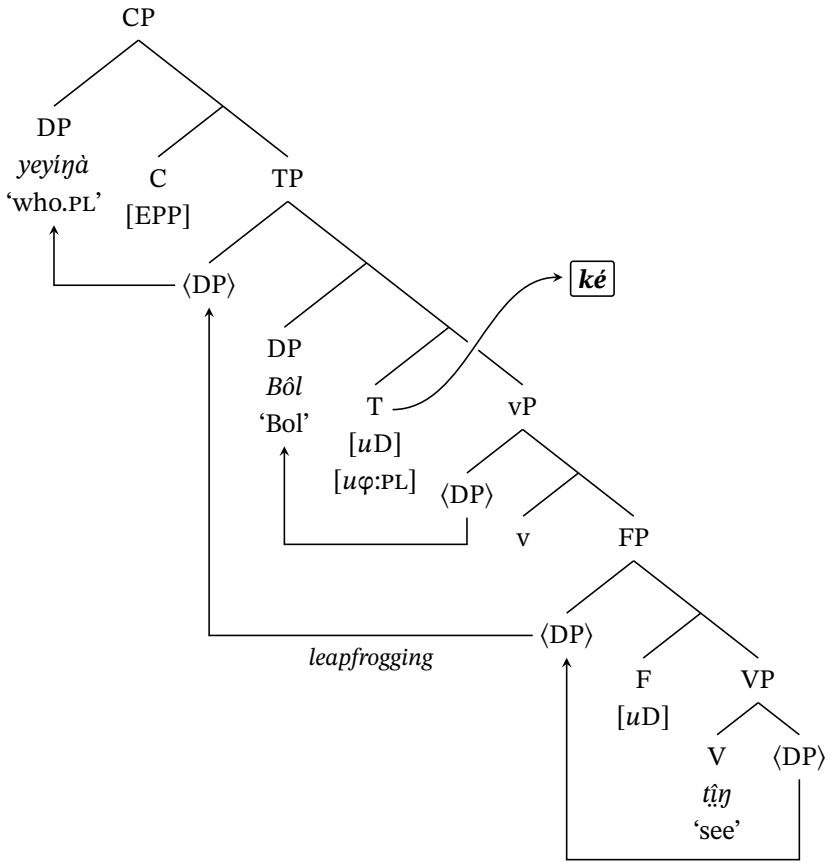
In (59), T bears only [*u*D], which leads to standard raising of the external argument *rə̰ə̰ə̰r* 'men' to [Spec,TP]. Because T does not bear [*u*φ], T does not agree with another element, and it does not establish φ-Agree with a DP. As a result, there is no *ké* and the subject *rə̰ə̰ə̰r* is the closest DP to C. The subject is thus attracted to [Spec,CP] to satisfy C's [EPP] feature.

Next, we contrast this derivation with one in which T bears not only [*u*D], but also [*u*φ]. As we show, this setup will lead to movement of an element other than the subject to [Spec,CP] and to *ké* if this element is plural. A sentence that illustrates such a structure is repeated in (60).

(60) **Yeyíŋà** cḭ́i Bôl **ké** tḭŋ?
who.PL PFV.OV Bol.GEN PL see
'Who all did Bol see?' [Van Urk & Richards 2015:127, ex. (23b)]

As shown in (61), [*u*D] on T triggers movement of the external argument *Bôl* to [Spec,TP], as before. Because in this case T additionally bears [*u*φ], [*u*φ] subsequently agrees with the closest DP in its c-command domain—in this case the internal argument *yeyíŋà* 'who.PL'—and attracts it to an outer [Spec,TP]. This leapfrogging is accompanied by plural agreement on [*u*φ], realized as *ké*. Finally, C attracts the structurally closest element, which in (61) is the leapfrogged object *yeyíŋà*. As a result, this analysis derives that object Ā-extraction requires clause-medial successive cyclicity, but it derives this requirement from DP-intervention (53) and leapfrogging rather than from clause-medial phases.

(61) *Derivation of (60)*



As discussed, [*u*φ] cannot agree with the subject. It follows, therefore, that [*u*φ] only agrees with DPs that are leapfrogged over the subject. This analysis of *ké* as the realization of plural agreement on v also accounts for the fact that while *ké* appears only if the Ā-extracted element is plural, it is insensitive to the person of the moving element, and also appears with 1st and 2nd person plural objects (see (37)).

We emphasize that this analysis does not involve lookahead. [*u*φ] may be either present on or absent from T, the choice being free but with different outcomes in each case. If T does not bear [*u*φ], then (i) no φ-Agree will be established and hence *ké* will be absent, (ii) no leapfrogging of an element over the subject takes place, and as a result, (iii) it is the subject that is attracted to [Spec,CP]. Conversely, if T bears [*u*φ], then (i) the highest non-subject element will control φ-Agree on T, leading to *ké* if it is plural, (ii) this element will leapfrog over the subject to an outer [Spec,TP], and (iii) being closer to C than the subject, it is this leapfrogged element that moves to [Spec,CP]. (Thus, if T carried [*u*φ] in (59), it would trigger leapfrogging of the object *yîin* 'you' above the subject—with [SG] agreement, hence no *ké*—followed by movement of *yîin* to the clause-initial position.)

Because *ké* is the realization of the leapfrogging probe, this account derives that *ké* does not occur with local-subject extraction, because local-subject extraction requires that no leapfrogging takes place.[23] This analysis of *ké* as the realization of a verbal φ-probe that is connected to movement of

[23] As mentioned in section 3.1.1, Dinka exhibits a voice system, where the verbal element in C appears in the "subject voice" if the element in [Spec,CP] is the local subject, in the "object voice" if the element is a DP object or nonlocal subject, and

the goal is reminiscent of patterns we find in a number of other languages. First, Romance (past) participle agreement is tied to extraction of the goal out of the vP (see Belletti 2017 and references cited there). Such participle agreement appears in a range of configurations, which Kayne (1989) correlates with A-extraction of the internal argument (as an instance of Spec–Head agreement, Kayne proposes). Our analysis of *ké* is similar in this regard. Second, Arabic subject–verb agreement (where only preverbal subjects control number agreement; Harbert & Bahloul 2002) provides a related example of φ-agreement that correlates with movement (also see Zeijlstra 2012 and Bjorkman & Zeijlstra 2019 for discussion in the context of an upward-Agree account, one of the two analytical options given in section 3.3.1). Third, in Bantu verb agreement is always controlled by a preverbal element and Carstens (2005) proposes an analysis in which a φ-probe that bears an EPP property triggers movement of the agreeing DP.[24]

3.3.3. Application 2: Long extraction

This analysis also derives that *ké* appears in every clause that is crossed by movement (except in the lowermost clause if the extracted element is the subject of that clause), as shown in (38), repeated here as (62).[25]

(62) **Yeyíŋà** yḛ̱ **ké** tâak, [$_{CP}$ cḭ̱i Bôl **ké** tḭ̱ŋ]?
who.PL HAB.2SG PL think PFV.OV Bol.GEN PL see
'Who all do you think Bol saw?' [Van Urk & Richards 2015:128, ex. (25b)]

The reason is that *yeyíŋà* 'who.PL' must leapfrog over the subject in order to be closest to C in each clause, as schematized in (63).[26]

"oblique voice" if the element is a PP or oblique (Van Urk 2015, Erlewine et al. 2017). Van Urk (2015) and Erlewine et al. (2017) take the subject voice to be the default voice and the object voice to arise whenever an element other than the subject occupies [Spec,CP]. Van Urk (2015:69–70, 74–78) analyzes the oblique voice as a combination of the object voice and incorporation of a preposition into C (motivated in part by the fact that the preposition of a PP disappears if this PP is moved to [Spec,CP], see (74) below). This can be clearly seen with main verbs as in (28), where the oblique-voice form *à-cɛ́ɛmḛ̱* (28c) transparently contains the object-voice form *à-cɛ́ɛm* (28b). This analysis of the oblique voice is compatible with our account.

Van Urk (2015:74) proposes that the object voice signals nonsubject extraction, and this voice also appears with extraction of a nonlocal subject (Van Urk 2015:134). He draws a connection to English *do*-support but leaves the analysis open. Because there is no connection to vP phases on his account, our shift to DP intervention does not complicate the analysis of object voice. In fact, DP intervention makes available a new approach to object voice in Dinka, one that integrates more tightly with the rest of the account. On the account developed here, the object voice arises in precisely those configurations that involve leapfrogging, hence in those configurations in which T bears [$u\varphi$]. The Dinka voice morphology might then be handled via selection: the subject-voice C selects a TP without the leapfrogging feature, the object-voice C selects a TP with the leapfrogging feature (and oblique voice comprises object voice plus P incorporation).

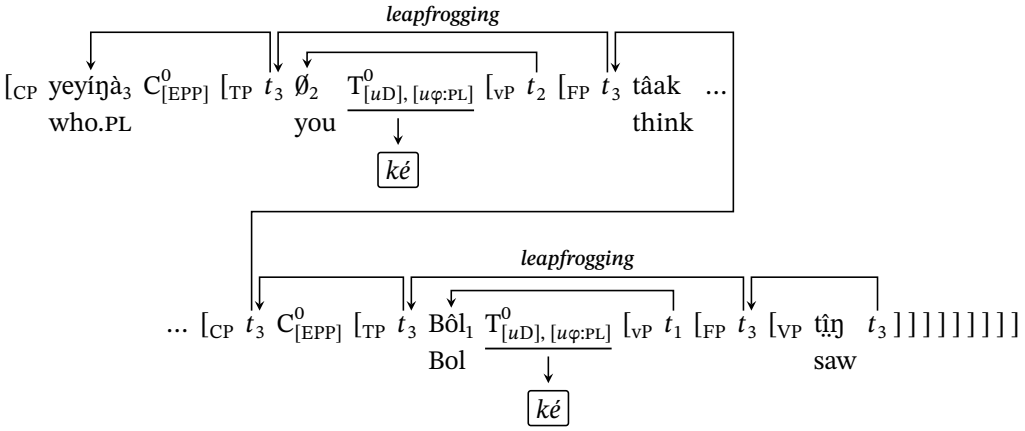
[24] The connection between our analysis of *ké* as φ-agreement and Carstens's (2005) analysis of φ-agreement in Bantu is particularly noteworthy. On these two accounts, the crucial differences between Bantu and Dinka *ké* are that (i) the φ-probe is only optionally present in Dinka, and (ii) the φ-probe coexists with [uD] and so creates a second specifier.

[25] For the apparent subject agreement in (62), see fn. 21.

[26] Note that (63) involves movement from [Spec,CP] to an outer [Spec,TP], hence possibly a violation of the ban on improper movement (Chomsky 1981). Importantly, however, Van Urk (2015:ch. 4) argues that [Spec,CP] in Dinka is in fact a mixed A/Ā-position. This might be sufficient to permit subsequent movement to [Spec,TP] even on traditional assumptions about improper movement (i.e., the ban blocks only movement from a pure Ā- to a pure A-position).

Additionally, on this account proposed here, it is no longer clear that [Spec,CP] in Dinka needs to have any Ā-properties. As Van Urk (2015:109–113) shows, movement to [Spec,CP] is not subject to WCO and feeds anaphor binding, and in this respect it hence shows the properties of A-movement. In addition to information-structural effects, Van Urk's primary

(63) *Derivation of (62)*



Note that treating *ké* as the realization of T immediately explains why *ké* does not also appear in the CP region in (62). As we saw, this fact requires additional assumptions if *ké* is analyzed as the realization of an intermediate copy (Van Urk 2018).

3.3.4. Application 3: Ditransitives

In addition to deriving the distribution of *ké*, this account also derives the empty-position effect, seen most clearly with ditransitive verbs (see section 3.1). Recall that in such constructions, one object must appear before the verb and one following the verb (see (64)). Furthermore, if Ā-movement of an object out of this vP takes place, it must empty the preverbal position and cannot empty the postverbal position (see (65)).

(64) a. Ɣɛ̂ɛn cɛ̰́ [Ayén] yiɛ̰́n kìtáp.
I PFV Ayen give book
'I gave Ayen a book.'

b. Ɣɛ̂ɛn cɛ̰́ [kìtáp] yiɛ̰́n Ayén.
I PFV book give Ayen
'I gave a book to Ayen.' [Van Urk & Richards 2015:124–125, ex. (19)]

(65) a. Yeŋà$_1$ cɨ̰́i môc [____$_1$] yiɛ̰́n kìtáp?
who PFV.OV man.GEN give book
'Who did the man give the book to?'

b. *Yeŋɔ́$_1$ cɨ̰́i môc [Ayén] yiɛ̰́n ____$_1$?
what PFV.OV man.GEN Ayen give
'What did the man give Ayen?' [Van Urk & Richards 2015:125, ex. (20a,d)]

motivation for treating [Spec,CP] as a partial Ā-position is primarily locality: such movement can descriptively skip intervening DPs, and it may cross clause boundaries. On the account we propose here, movement to [Spec,CP] cannot actually cross intervening DPs (and this is why leapfrogging is required), and successive-cyclic movement does not proceed CP-to-CP (see (63)). Our analysis thus has implications for the typology of movement types as well, which we will however not discuss further here.

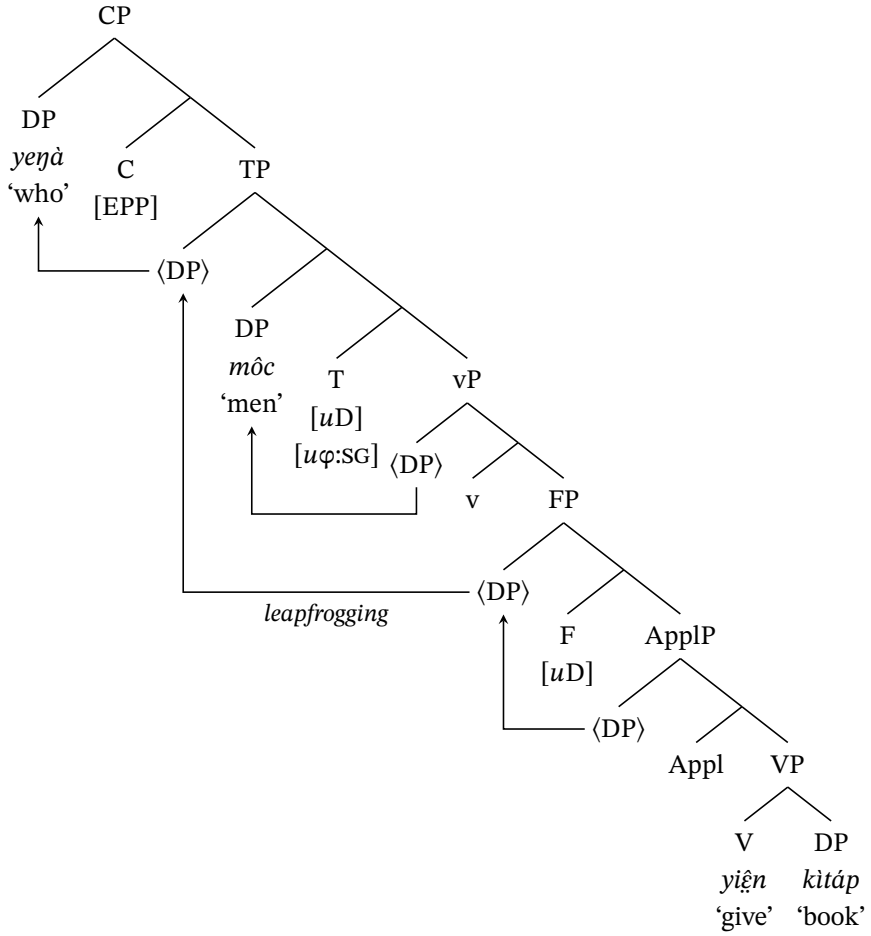
We derive this restriction as a second instance of DP intervention. Recall that leapfrogging of an object over the subject is triggered by [$u\varphi$] on T. Given standard minimality, [$u\varphi$] agrees with the closest φ-bearing element in its search space. This results in the corollary in (66).

(66) Corollary: Due to minimality, [$u\varphi$] on T (if present) attracts the structurally closest φ-bearing element in its c-command domain.

Recall that the external argument does not count for (66) due to (56). We also note that (66) is analogous to the "closest" requirement of C in Dinka (53) and SI (22). This generalizes DP intervention to heads other than C.

(66) has the consequence that if v's search space contains two φ-bearing DPs, only the higher one may be attracted and hence leapfrog over the external argument. In ditransitive constructions, the object in [Spec,FP] is invariably the closest DP to T and hence the only DP that may undergo leapfrogging. Object movement from [Spec,FP] is schematized in (67).

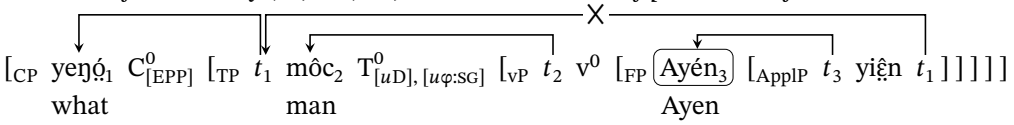
(67) *Derivation of (65a)*



Extraction of the postverbal object as in (65b) is ruled out because it would require that this object be attracted by [$u\varphi$]. This would violate the minimality corollary (66) because the preverbal object *Ayén*

'Ayen' intervenes between T and the postverbal object, as shown in (68). This derives the contrast in (65) from relativized minimality in the probing of [*uφ*], hence from DP intervention.

(68) *Violation of minimality (66) in (65b) due to intervention of preverbal object*



Importantly, this account does not appeal to a clause-medial phase. The reason that only the preverbal object may undergo Ā-extraction is *not* that only this object is located at a phase edge. Instead, it is another instance of DP intervention—only the highest object may be attracted by the leapfrogging probe on T.

This analysis also extends to (64b), in which the preverbal position is occupied by the theme argument and the goal appears postverbally. Here as well, only the preverbal object may undergo Ā-movement (see (34)). Van Urk (2015:151–154) argues that such constructions derive from a PP-object construction (see (52)). As before, due to the minimality corollary (66), [*uφ*] on T can attract only the higher object (here, the theme). Consequently, the lower PP object cannot leapfrog over the subject and hence cannot undergo Ā-movement, deriving the pattern in (34).

The account also derives constraints on crossclausal extraction. As (69a) shows, it is possible for the verb *lɛ́k* 'tell' to take a CP argument and a structurally higher indirect object (*Dèŋ*). (69b) then demonstrates that long Ā-movement out of the embedded CP cannot cross the intervening *Dèŋ*.

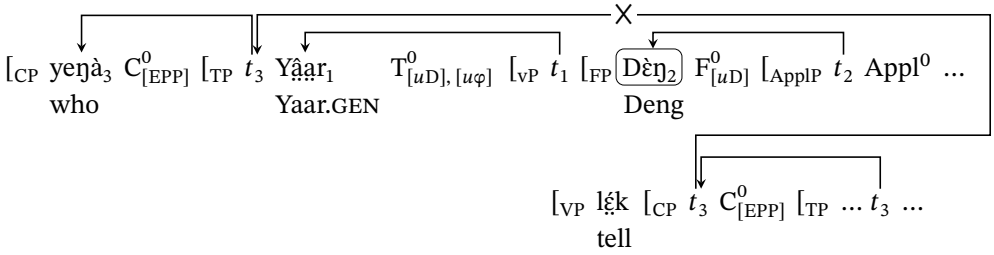
(69) a. Yɑ̰ɑ̰r à-cɛ́ **Dèŋ** lɛ́k, [CP yè Bòl à-cɛ́ Ayén tuɔ̀ɔc wʉ̰ʉ̰t]
Yaar 3SG-PFV Deng tell C Bol 3SG-PFV Ayen send cattle.camp.LOC
'Yaar told Deng that Bol sent Ayen to the cattle camp.'

b. *Yeŋà1 cɪ̰i Yɑ̰ɑ̰r **Dèŋ** lɛ́k, [CP yè cɪ̰i Bôl ____1 tuɔ̀ɔc
who PFV.OV Yaar.GEN Deng tell C PFV.OV Bol.GEN send
wʉ̰ʉ̰t]?
cattle.camp.LOC
'Who did Yaar tell Deng that Bol sent to the cattle camp?'

[Van Urk & Richards 2015:133, ex. (37a,c)]

The ungrammaticality of (69b) follows from minimality (66), as shown in (70). Movement of *yeŋà* to the matrix [Spec,CP] requires leapfrogging around the matrix subject *Yɑ̰ɑ̰r*, hence Agree with the matrix [*uφ*]. But because the indirect object *Dèŋ* intervenes between [*uφ*] and *yeŋà* inside the embedded CP, [*uφ*] cannot agree with *yeŋà*. As a result, matrix C cannot attract *yeŋà*, ruling out (69b).

(70) *Violation of minimality (66) in (69b) due to intervention of preverbal object*



Our analysis thus attributes the crossclausal extraction restriction in (69) to the same constraint that restricts extraction in ditransitive constructions (65)—only the DP closest to T can undergo leapfrogging to an outer [Spec,TP]. And this restriction is in turn due to the same constraint that gives rise to the need for leapfrogging in the first place—the relevant probes on C and T can agree only with the structurally closest element (i.e., (53) and minimality (66)).[27]

Notably, if *Dèŋ* in (69b) follows the main verb, extraction out of the embedded clause is permitted, as shown in (71):

(71) Yeŋà$_1$ cịi Yậạr lɛ́k **Dèŋ**, [$_{CP}$ yè cịi Bôl ____$_1$ tuɔ̀ɔc wụ́ụ̀t]?
who PFV.OV Yaar.GEN tell Deng C PFV.OV Bol.GEN send cattle.camp.LOC
'Who did Yaar tell Deng that Bol sent to the cattle camp?'
[Van Urk & Richards 2015:133, ex. (37b)]

We interpret the difference between (69) and (71) as reflecting the two structures available for ditransitive constructions postulated by Van Urk (2015) in (51) (including our addition of FP). The two options are given in (72):

(72) a. [$_{FP}$ DP$_1$ F [$_{ApplP}$ t_1 Appl [$_{VP}$ V CP]]] ⇒ *Word order:* DP V CP; *DP intervention* (69)
b. [$_{FP}$ CP$_1$ F [$_{VP}$ t_1 V^0 [$_{PP}$ P DP]]] ⇒ *Word order:* V DP CP; *no DP intervention* (71)

In (72b), P is null (as it is in ditransitives, see (51)), but for other verbs the PP structure is overtly reflected (Van Urk 2015:158, ex. (62c)). Following Van Urk & Richards (2015:135), CPs are always linearized to the right even in specifier positions so that the embedded CP linearly follows *Dèŋ* in (72b). *Dèŋ* does not structurally intervene between the CP and the matrix T in (72b) and thus does not block leapfrogging of *yeŋà* over *Yậạr* in (71). As expected, in the absence of an intervening DP in the higher clause, long Ā-movement is possible (see (62) and the corresponding structure in (63)).

3.3.5. Application 4: PP extraction

PP extraction does not empty the preverbal position, but it does lead to *ké* if the head noun of the PP is plural, as shown in (73).

(73) *PP extraction leads to* ké

a. Ye **piụ́** **kê-dí** cịi Bôl **ké** bàmbèe thàal?
Q water much-how PFV.OV Bol.GEN PL sweet.potatoes cook.TR
'With how much water did Bol cook sweet potatoes?'

b. Ye **bɛ̀ɛ̣̀i** **kô** cénnɛ̀ nyą́nką́i **ké** wą́nmą́th tuɔ̀ɔc?
Q villages which PFV.OV sister PL brother send
'Which villages did my sister send my brother to?'
[Van Urk & Richards 2015:130, ex. (30a,b)]

[27] It is worth noting that Van Urk & Richards (2015) attribute the ungrammaticality of (69b) to a requirement for CP out of which extraction takes place to agree with the matrix v head (in order to "unlock" them for this extraction). This Agree results in obligatory movement to the preverbal position. The DP-intervention account does not need to appeal to phase unlocking through Agree in order to rule out (69b).

Van Urk (2015:218n17, 2018:949n13) observes that the fact that extraction of these PPs triggers *ké* if their lexical noun is plural entails that they are generated vP-internally, hence below the subject (an assumption also made by Van Urk & Richards 2015).[28] On our account, the reason that *ké* appears in (73) is thus the same as with DP extraction: in order for the PP to be attracted to [Spec,CP], it must be the closest element to C. This requires leapfrogging over the subject and hence Agree with T's [$u\varphi$]. One question that arises, of course, is why [$u\varphi$] should be able to agree in number with a PP. This is likely related to another curious property of PP Ā-movement in Dinka, discussed in detail by Van Urk (2015). As Van Urk shows, these elements appear with a preposition in their postverbal base position, but if they undergo Ā-movement, the preposition disappears. This is illustrated in (74). In (74a), *nɛ̈ tɔ̈n̈y* 'with a pot' appears in its base position and bears the preposition *nɛ̈* 'with'. (74b) shows that if this element is Ā-moved, this preposition disappears.

(74) a. Bòl à-thɛ̀t **nɛ̈ tɔ̈n̈y**.
Bol 3PL-cook.SV P pot
'Bol is cooking with a pot.'

b. **Tɔ̈n̈y** à-thɛ̱̈tɛ̈ Bôl.
pot 3PL-cook.OBLV Bol.GEN
'A pot, Bol is cooking with.' [Van Urk 2015:105, ex. (25a,b)]

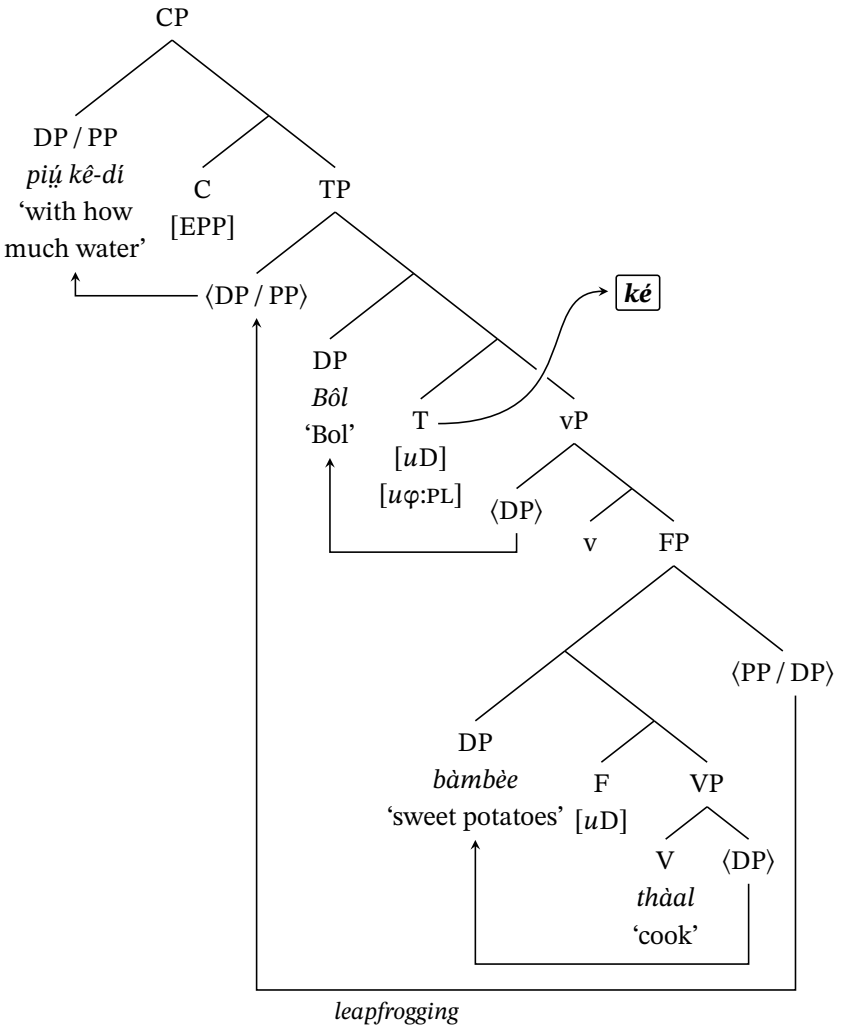
Van Urk (2015:74–78) proposes that the preposition *nɛ̈* incorporates into C while the DP moves into [Spec,CP]. Another possibility, mentioned in Van Urk (2015:77–78, 2018:949n13), is that *tɔ̈n̈y* in (74) is base-generated as a DP in an applicative construction (and that such a configuration violates the Case Filter unless the DP is extracted to [Spec,CP]). The exact choice does not matter for the account as long as the number feature of the lexical noun is accessible to T's [$u\varphi$] probe.

Assuming, therefore, that [$u\varphi$] can agree with DPs embedded in PPs under Ā-movement (in whichever way these are derived), we derive *ké* in (73) as follows. To illustrate using (73a), in order for C to attract *piü̱ kê-dí* '(with) how much water', this element needs to be moved over the external argument, which in turn requires Agree with T's [$u\varphi$]. In (75), *piü̱ kê-dí* '(with) how much water' is the structurally closest φ-bearing element to T and so it is attracted to an outer [Spec,TP], from where it undergoes movement to [Spec,CP]. Since *piü̱ kê-dí* '(with) how much water' is plural, *ké* results. Note that, in line with the minimality corollary (66), T attracts the structurally closest φ-bearing element in (75).[29]

[28] Van Urk suggests that this low generation site is a general property of PPs that contain a lexical noun in Dinka. Like the vP-phase account developed by Van Urk & Richards (2015) and Van Urk (2015, 2018), the account proposed here predicts that elements that are base-generated above the subject should not trigger *ké* when extracted. Because *ké* is only ever triggered by plural elements, hence elements that contain a lexical noun, this prediction is impossible to test in Dinka if Van Urk's suggestion is correct. In any case, the issue is orthogonal to the choice between phases and DP-intervention.

[29] On this account, *ké* is thus in the same position in all its occurrences, namely in T. This differs from the account in Van Urk (2015, 2018) and Van Urk & Richards (2015), which locates *ké* in an inner [Spec,vP] if the moving element is a DP but in an outer [Spec,vP] if the moving element is a PP. We do not know of a way to empirically distinguish between these two views.

(75) *Derivation of (73a)*



We note that the presence of an adjunct does not interfere with Ā-movement of an object (see Van Urk 2015:61, 2018:942). This follows from the assumption that the base position of adjuncts is variable: if an adjunct attaches below the landing site of the shifted object in [Spec,FP] (either by adjoining to FP at a lower position or by adjoining to VP), the shifted object will be the closest goal for T's [*u*φ], and it will then be the object that undergoes leapfrogging.[30]

[30] Note that because the leapfrogging probe on T may only attract the closest φ-bearing element, the extraction in (73b) requires that the PP argument of *tuɔ̀ɔc* 'send' is (or may be) closer to T than the theme argument. In this regard, *tuɔ̀ɔc* 'send' differs from verbs like *yiɛ̱n* 'give', which, as Van Urk (2015:151–153) argues, may take a postverbal goal argument that is a PP (52). Here, the PP argument may not extract (see (34b)), which we derived from the minimality corollary (66). The contrast is interesting and not well-understood but we believe orthogonal to the analytical choice between vP phases and DP intervention. For example, Van Urk (2015:169, 217, 220) analyzes the PP that occurs with *tuɔ̀ɔc* 'send' as an adjunct and a modifier, and Van Urk (2018:949) specifically treats this PP as a VP modifier. This treatment may be carried over into the DP-intervention account, in which case (73b) has a syntax analogous to that of (73a) (see (75)). Alternatively, one might assume a structure in which the PP is an argument generated above the theme DP (and linearized to the right, as PPs always are in Dinka). In either case, the DP does not intervene between T and the PP, and so the PP may leapfrog over the subject.

3.3.6. Application 5: Unaccusative predicates

Finally, the leapfrogging resolves the apparent paradox posed by unaccusative structures. Recall from (42), repeated here as (76), that Ā-extraction of the subject of an unaccusative does not lead to *ké*.

(76) Yè **pɛ̌ɛɛl-kó** bɛ̰ (***ké**) dhuôoŋ?
Q knives-which FUT (*PL) break.NFIN
'Which knives will break?' [Coppe van Urk, p.c.]

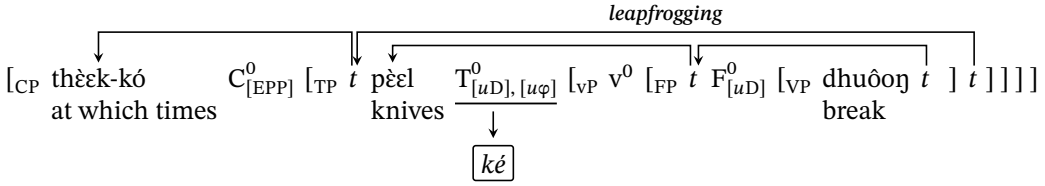
At the same time, extraction of an adjunct out of an unaccusative vP does induce *ké* if plural, as shown again in (77), repeated from (43).

(77) Yè **thɛ̀ɛk-kó** bɪ́i pɛ̀ɛl **ké** dhuôoŋ?
Q times-which FUT.OV knives PL break.NFIN
'At which times will the knives break?' [Van Urk 2015:168, ex. (81)]

Van Urk (2015:218n17, 2018:949n13) observes that the fact that extraction of *thɛ̀ɛk-kó* 'at which times' triggers *ké* entails that *thɛ̀ɛk-kó* 'at which times' is generated vP-internally, and we will follow him in this assumption.

As noted in section 3.2, on a vP-phase account, the contrast between (76) and (77) is puzzling. If *ké* indicates successive-cyclic movement through [Spec,vP], then (76) would show that unaccusative vP acts as a phase for extraction of the unaccusative subject in (77), but not for the extraction of the adjunct in (76). This would result in a contradiction: how can the same vP act as a phase in (77) but not in (76)? A DP-intervention account resolves this tension because it attributes the emergence of *ké* to intervention rather than to phasehood and (76) and (77) differ w.r.t. intervention. The derivation of (77) is analogous to (75) in the relevant respects, as shown in (78). The unaccusative subject *pɛ̀ɛl* 'knives' moves to [Spec,TP], where it intervenes between C and *thɛ̀ɛk-kó* 'which times'. In order for *thɛ̀ɛk-kó* 'which times' to be movable to [Spec,CP], it must leapfrog around the subject *pɛ̀ɛl* 'knives' and hence agree with [*u*φ] on T, resulting in *ké*.

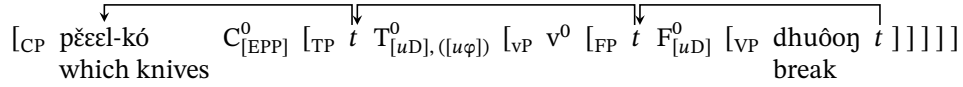
(78) *Derivation of (77): leapfrogging required*



By contrast, in (76), it is the unaccusative subject itself that undergoes movement to [Spec,CP]. The relevant derivation for (76) is shown in (79). In this case, it is irrelevant whether T contains [*u*φ] or not (indicated with parentheses in (79)). In either case, [*u*D] applies first, moving the DP *pɛ̌ɛɛl-kó* 'which knives' to [Spec,TP], followed by movement to [Spec,CP]. If T contains [*u*φ], it fails to agree in (79) because its c-command domain (i.e., the vP) does not contain a licit agreement target. Consequently, no *ké* arises regardless of whether [*u*φ] is present on T in (79) or not.

At first glance, the account in Van Urk & Richards (2015) would appear simpler because it only distinguishes PPs from DPs and assumes that both arguments of *yíẹ̀n* 'give' are DPs. But this account does not handle Van Urk's (2015:151–153) arguments that the postverbal argument in (30b) is a PP as well, which nonetheless cannot extract (34b). The DP/PP distinction alone is hence insufficient.

(79) *Derivation of (76): no leapfrogging*



3.4. Section summary

To summarize this section, the alternative analysis we propose does not appeal to clause-medial phases in any way but instead derives the observed patterns from intervention and the concomitant need for leapfrogging. As in the account of SI, the key component of the analysis is that C in Dinka may only attract the closest goal. While this restriction manifests as a subject-only extraction restriction in SI, Dinka has the option of leapfrogging the object over the subject. This leapfrogging enables non-subject extraction and manifests morphologically: *ké* is the realization of the leapfrogging probe. We furthermore propose that the empty-position effect that Van Urk & Richards (2015) and Van Urk (2015) analyze as an intermediate landing site in [Spec,vP] is a second reflex of DP-intervention, but in the probing of T rather than C. Because this analysis does not involve a clause-internal phase, the Dinka pattern then no longer provides evidence for the existence of such a phase. We showed how the shift from phasehood to DP-intervention allows us to (i) explain why local subjects do not lead to *ké* under Ā-movement (as there is no leapfrogging), which we saw requires additional assumptions on a vP-phase account, (ii) understand the otherwise paradoxical behavior of unaccusative vPs with respect to *ké*, and (iii) derive without further assumptions why *ké* does not also appear in the CP region. We also showed that the extraction restriction in ditransitive constructions can be given an analogous account—[$u\varphi$] on T may only attract the structurally closest DP. The crucial locality property of C thus also holds for other heads in the language, paving the way for a uniform account of the various components of Dinka's complex Ā-extraction system in terms of DP intervention.

4. Extraction morphology in Defaka

An important difference between a phase-based account of clause-medial successive cyclicity and the DP-intervention account is that on a phase-based account, on traditional assumptions about phases, the intermediate landing site is expected to be constant across languages, at least if the identity of the phase heads is.[31] The intervention-based account of Dinka in section 3 locates the intermediate landing site in [Spec,TP] immediately above the canonical subject position, and it predicts that the landing site could be even higher if the subject is. In this section, we argue that this is the case in Defaka, based on Bennett (2009) and Bennett et al. (2012).

4.1. Empirical evidence

Defaka (Ijoid) is an SOV language that allows focus fronting of maximally one XP. This fronting has morphological effects. As shown in (80b), when a local subject is focus-fronted, it bears a focus marker *kò*; the verb morphology remains unaffected. When any element other than the local subject

[31] This does not equally apply to dynamic notions of phasehood, in which the phasal nature of a head is in principle variable (e.g., Den Dikken 2007, Gallego & Uriagereka 2007b, Bošković 2014, Harwood 2015). See section 5.3 for discussion.

undergoes focus fronting, two reflexes arise, illustrated in (80c). First, the fronted XP bears the focus marker *ndò.* Second, the verb bears the special morphological marker *kè.* In what follows, we simply gloss *kè* as "KE" in the examples. We follow Bennett (2009) and Bennett et al. (2012) in glossing *kò* as "FOC.SBJ" but as we will see immediately below, *kò* appears only if it is the *local* subject that has undergone focus fronting.[32]

(80) a. *No focus-fronting*
ì Bòmá ésé-kà-rè
I Boma see-FUT-NEG
'I will not see Boma.'

b. *Local-subject focus*
ì **kò** Bòmá ésé-kà-rè
I FOC.SBJ Boma see-FUT-NEG
'I will not see Boma.'

c. *Object focus*
Bòmá **ndò** ì ésé-kà-rè-**kè**
Boma FOC I see-FUT-NEG-KE
'I will not see Boma.' [Bennett et al. 2012:294, ex. (1)–(3)]

Note that the verbal reflex *kè* is separated from the verb root by tense and negation. Assuming the Mirror Principle (Baker 1985), this indicates that *kè* realizes a head above tense and negation (though this is not Bennett's 2009 and Bennett et al.'s 2012 view).

Furthermore, the split sets local subjects apart from all other fronted elements. That is, fronting of adjuncts patterns like fronting of objects, as shown in (81): the fronted XP bears *ndò,* and the verb bears *kè.* This includes locative adverbs and temporal adverbs.

(81) *Adjunct focus* → kè

a. [ándù kìkìà] **ndò** à èbèrè rì bòì-mà-**kè**
canoe under FOC the dog KE hide-NFUT-KE
'The dog is hiding under the canoe.' [Bennett et al. 2012:296, ex. (15)]

b. òmòmò **ndò** Bòmá ìbò tínà árí-**kè**
now FOC Boma big fish catch-KE
'Boma caught a big fish just now.' [Bennett 2009:18, ex. (59b)]

c. [nùmá bíò] **ndò** ò à tìnà árí-**kè**
that river FOC he the fish catch-KE
'He caught the fish in that river.' [Bennett 2009:18, ex. (61b)]

Long focus fronting is possible, and in this case, *kè* arises in the way just described on all verbs crossed by movement. If an object is moved nonlocally, both the embedded verb and the matrix verb bear *kè,* as (82) shows.

[32] In order to stay as close as possible to the original examples, we maintain Bennett's (2009) and Bennett et al.'s (2012) convention of indicating focus by means of underlining in the free translation.

(82) *Nonlocal-object focus*

ándù$_1$ **ndò** Bòmá fàà-**kè** [$_{CP}$ ìní ____$_1$ été-**kè**]
canoe FOC Boma say-KE they have-KE
'It's a canoe that Boma said that they have.' [Bennett et al. 2012:297, ex. (21)]

If an embedded subject is fronted nonlocally, *kè* does not appear on the embedded verb, but it must appear on the matrix verb. Additionally, *ndò* rather than *kò* appears in the matrix clause. This is illustrated in (83).

(83) *Nonlocal-subject focus*

Bruce$_1$ **ndò/*kò** Bòmá jírí-***(kè)** [$_{CP}$ ____$_1$ á ésé-mà]
Bruce FOC/*FOC.SBJ Boma know-*(KE) her see-NFUT
'Boma knows (that) Bruce saw her.' [Bennett et al. 2012:297, ex. (18)]

The fact that the fronted embedded subject in (83) must be marked with *ndò* and cannot be marked with *kò* makes it pattern with fronted objects. This makes it clear that the choice between *ndò* and *kò* does not draw the distinction between subjects and nonsubjects per se, but between local subjects and everything else—the same distinction that conditions the appearance of *kè*. In other words, *kè* appears whenever the fronted element is accompanied by *ndò,* and *kè* and *ndò* are mutually exclusive with *kò*.

4.2. vP-phase account

Bennett (2009) and Bennett et al. (2012) argue that the distribution of *kè* provides evidence for vP phases (also see Van Urk 2016, 2020a,b). They propose that focus extraction of any element that is not located at the vP edge requires it to first move to [Spec,vP] in order to leave the vP phase. *Kè* is then analyzed as reflecting such intermediate movement. Such movement is required for nonsubjects and nonlocal subjects but not for local subjects, which are base-generated at the vP edge. Importantly, however, Bennett (2009) and Bennett et al. (2012) argue that *kè* is *not* located within the vP but within a higher head (which they dub "X^0") that is located between vP and TP. The reason is that they attribute the sentence-final position of *kè* to fronting of the vP to [Spec,TP] (along the lines of Kayne 1994). In order for *kè* to occur in a sentence-final position, vP-movement must not move *kè* along, and as a consequence *kè* must be located outside of the vP. Bennett (2009) and Bennett et al. (2012) suggest that *kè* selects for a vP that bears a [+Focus] feature (which attracts an element to its edge). Thus, if v attracts a [+Focus] element to its edge, then the next-higher head is realized as *kè*, as schematized in (84).[33]

(84) $[_{TP} \ldots [_{XP}\ X^0\ [_{vP}\ \overbrace{DP^{obj}_{[+Focus]}\ v^0_{[+Focus]}\ [_{VP}\ t^{obj}\ V\ ]\ ]\ ]\ ]}$
$\downarrow$
$\boxed{kè}$

[33] For the sake of exposition, we do not represent in (84) the movement of the vP to [Spec,TP] that Bennett's (2009) and Bennett et al.'s (2012) analyses assume. In our own analysis, we take the head that hosts *kè* to be head-final, so that no vP movement is necessary to derive the final position of *kè*.

On Bennett's (2009) and Bennett et al.'s (2012) analysis, the link between vP phasehood and *kè* is thus only indirect: *kè* is not a direct reflex of movement to [Spec,vP] or the feature that underlies it.

Next, in order to account for the distribution of *ndò* and *kò,* Bennett (2009) and Bennett et al. (2012) locate these elements in the left periphery. Concretely, they propose that the clausal spine contains one projection that licenses a subject ("SubjP") and a higher FocusP projection. If any element other than the local subject is fronted, this element occupies [Spec,FocusP] while the local subject is located in [Spec,SubjP], as shown in (85). In this case, Focus^0 is realized as *ndò.*

(85) *Nonsubject fronting*

$[_{\text{FocusP}}\ \text{XP}_1\ [\ \text{Focus}^0\ \ldots\ [_{\text{SubjP}}\ \text{DP}_2\ [_{\text{TP}}\ \ldots\ t_2\ \ldots\ t_1\ \ldots\ ]\ ]\ ]\ ]$

↓

ndò

Building on work by Giorgi & Pianesi (1996) and others, Bennett (2009) and Bennett et al. (2012) then propose that if a local subject is focus-fronted, these two projections are combined into a joint {Focus–Subj} projection, whose specifier is occupied by a fronted local subject, as shown in (86). This {Focus–Subj} head is then realized as *kò.*

(86) *Local-subject fronting*

$[_{\{\text{Focus–Subj}\}\text{P}}\ \text{DP}_1\ [\ \{\text{Focus–Subj}\}^0\ [_{\text{TP}}\ \ldots\ t_1\ \ldots\ ]\ ]\ ]$

↓

kò

They furthermore assume that if a joint Focus–Subj projection is possible, it must be used, making *kò* obligatory with local-subject extraction.

Bennett's (2009) and Bennett et al.'s (2012) analysis is insightful, and we will preserve several key aspects of it in the account developed here, but also faces a number of concerns, to which we now turn. First, while Bennett (2009) and Bennett et al. (2012) appeal to vP phasehood to derive the distinction between local subjects (which originate at the vP edge) and objects (which must move, hence triggering *kè*), it is not at all clear that this analysis handles adjuncts correctly. As shown in (81), adjunct fronting likewise triggers *kè.* On a vP phase account, this would require that *all* adjuncts are base-generated within the VP so that they must move to [Spec,vP] in order to be extracted to CP. Bennett (2009) and Bennett et al. (2012) do not provide independent support for the claim that all relevant adverbs originate VP-internally. The fact that even locative and temporal adverbs that generally have to be vP-external given their scopal behavior behave in this way and would hence need to be generated inside the VP constitutes a serious challenge for this account. This is particularly pressing for adverbs that are deictic and make reference to the utterance time, like *òmòmò* 'now' in (81b), and that therefore require access to T.[34]

To put the problem somewhat differently, vP phases derive a distinction between elements at the vP edge and VP-internal material. But empirically, the crucial split in Defaka is between local subjects on the one hand and everything else on the other. If only local subjects and objects are considered, these two line up. But once adjuncts are brought into the picture, the empirical split between local

[34] Note that we assumed that in Dinka, the adverb *thèɛk-kó* 'at which times' originates vP-internally (see (77) and fn. 28), following Van Urk (2015, 2018). This does not invalidate our argument for Defaka because 'at which times' is not deictic in nature—unlike 'now', it does not make reference to the utterance time and therefore does not require access to T.

subjects and everything else does not correlate (under standard views about the position of adjuncts) with the distinction between VP-internal and VP-external material that vP phases give rise to. We take this as an indication that it is not vP that underlies the split.

In addition, the vP-phase analysis faces a conceptual objection as well. As shown in section 4.1, the distribution of *kè* correlates with that of *ndò,* which marks fronted XPs other than local subjects. Despite the fact that the two markers appear under the same conditions, Bennett's (2009) and Bennett et al.'s (2012) analysis treats them separately: *kè* is analyzed in terms of vP phases, while *ndò* is attributed to properties of higher functional projections (FocusP and SubjP). In light of the parallelisms in the distribution of *kè* and *ndò*, one might wonder whether it is not possible to analyze *kè* in terms of higher functional projections as well. Note that such a more unified analysis would also be consistent with Bennett's (2009) and Bennett et al.'s (2012) observation that *kè* realizes a vP-external and, in fact, sentence-final head. In the next section, we will develop such an analysis. This analysis is based on DP intervention and as we will show not only links *kè* and *ndò* more directly, it also obviates the need for vP phases.

4.3. DP-intervention analysis

To maximize comparability between the vP-phase account and the DP-intervention account, we maintain Bennett's (2009) and Bennett et al.'s (2012) idea that the distribution of *ndò* and *kò* is conditioned by whether the projection that hosts the subject and the Focus projection are conflated into a single projection or not, though this assumption is not strictly necessary. We adopt the conflation aspect of Bennett's (2009) and Bennett et al.'s (2012) account for two reasons. First, it allows for an easier comparison between the two approaches, demonstrating that it is possible to dispense with vP phases while leaving other aspects of their account intact. Second, the idea that certain heads can be conflated has been independently proposed for heads in the TP domain (Bobaljik 1995, Thráinsson 1996, Giorgi & Pianesi 1996, 1997, Bobaljik & Thráinsson 1998), in the CP domain (Bianchi 1999), across these two domains (Gallego 2017), and in the vP domain (Pylkkänen 2002, 2008, Harley 2017). Additionally, Legate (2011, 2014), Martinović (2015, 2022), and Erlewine (2018) have argued that C and T can be conflated into a single head for Acehnese, Wolof and Toba Batak, respectively. Finally, Hsu (2016, 2021) develops a general theory of head bundling across a number of domains.[35]

The conflation analysis of *ndò kò* can be extended to *kè* once it is framed in terms of DP intervention instead of vP phasehood. Additional appeal to phases is then unnecessary. We follow Bennett's (2009) and Bennett et al.'s (2012) view that the subject raises to a specifier of a phrase higher then TP, which they dub "SubjP" (a term we adopt for convenience without making particular commitments about its exact nature). For this, we assume a simple CP > SubjP > TP > vP > VP clause structure, as before. C is responsible for focus-fronting an XP, and in line with our accounts of Standard Indonesian and Dinka, C may only attract the closest DP. As a result, if a nonsubject is to be Ā-extracted, it must first move to an outer specifier of SubjP in order to be attractable by C. As noted,

[35] One viable alternative to a conflation account, in line with a suggestion for Dinka in fn. 23, is to tie the distribution of *ndò* and *kò* to whether or not leapfrogging has taken place. On this analysis, *ndò* realizes a C head that bears an Ā-feature and that occurs in the context of a SubjP targeted by leapfrogging; and *kò* realizes a C head with an Ā-feature in the context of a SubjP not targeted by leapfrogging.

Another analytical option, noted by a reviewer, is to adopt Bošković's (to appear) claim that wh-subjects are located in a lower position than wh-objects (but still higher than the position of non-wh-subjects). Instead of using conflation, we could then associate *kò* with the presence of an element in this lower wh-position.

maintain Bennett's (2009) and Bennett et al.'s (2012) assumption that if Subj and C would have the same element in their specifiers, they are conflated into a single {C–Subj} projection that comprises the features of both Subj and C (though see fn. 35 for possible alternatives).

Against this background, we treat *ndò* and *kò* as realizations of C and *kè* as the realization of Subj. Their precise specifications are given in (87). All three realize [*u*Foc] features, but they differ in the context of this [*u*Foc] feature.[36] First, *ndò* in (87a) realizes [*u*Foc] on a C head in the context of an overt specifier (that is, *ndò* is not triggered by an intermediate landing site). Second, *kò* in (87b) realizes [*u*Foc] on a conflated {C–Subj} head, also in the context of an overt specifier. Third, *kè* in (87c) realizes [*u*Foc] on a Subj head, the feature responsible for leapfrogging. The restriction of *ndò* and *kò* to heads with an overt specifier is to limit their appearance to the final landing site of the movement chain. We assume that vocabulary insertion follows chain reduction (see Georgi & Amaechi 2022 and the references cited there) and hence that the information about whether a copy is overt or not is available to vocabulary insertion. See, e.g., Georgi (2014, 2017, 2019) and the references cited there for cases in which intermediate and terminal landing sites have different morphological effects.

(87) a. /ndò/ ↔ $C_{[uFoc]}$ / $[_{CP}$ XP ___
b. /kò/ ↔ $\{C–Subj\}_{[uFoc]}$ / $[_{\{C–Subj\}P}$ XP ___
c. /kè/ ↔ $Subj_{[uFoc]}$

The claim that *kè* realizes a structurally high head (higher than TP) is independently supported by morphological considerations. As (80c) illustrates, *kè* is separated from the verb root by tense and negation. In line with the Mirror Principle (Baker 1985), this ordering indicates that *kè* realizes a head higher than T and Neg, all of which are head-final and hence realized as suffixes.

As in the analyses of SI and Dinka above, we assume that C in Defaka may only attract the closest element, even in cases where an intervening element is not focused. Because fronting is associated with focus interpretation in Defaka, we broadly adopt the analysis of SI, according to which C bears a complex probe. Unlike SI, however, intervention is not category-specific in Defaka. Fronting of PPs and adverbs requires *kè* and hence leapfrogging. We therefore propose the complex probe in (88).

(88) C: [*u*Foc+*u*X]

Here, the feature [*u*X] is a "catch-all" feature that is not category-specific but can instead be matched by a variety of categories, including DPs, PPs, and adverbs. In this respect, it is similar to the attracting feature in V2 languages, where a variety of elements may be used to satisfy the V2 requirement.[37] In a way, then, (88) combines aspects of the analyses of Dinka and of SI. Recall from the analysis of SI that complex probes like (88) cannot attract a fully-matching element over a partially-matching one (Erlewine 2018, Coon & Keine 2021, Coon et al. 2021). As a consequence of (88), C cannot attract a

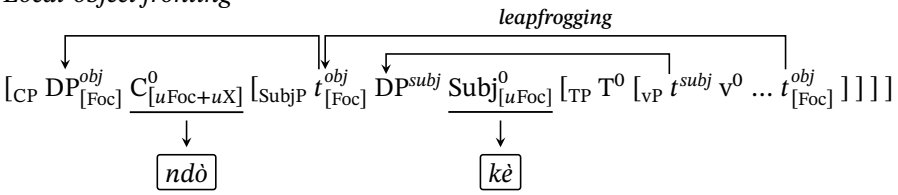
[36] While nothing crucial hinges on this, we assume that the crucial movement-inducing feature in Defaka is [*u*Foc] rather than [*u*δ] (as we did for SI). The reason is that in Defaka the distribution of the morphological reflex is more narrow: it appears if the moving element is "emphasized or pragmatically salient" (Bennett 2009:1), which leads Bennett et al. (2012:294) to associate it with focus movement only.

[37] [*u*X] in (88) could therefore be thought of as a maximally underspecified category feature. This conception raises the question why the SubjP does not intervene for Agree between C and an XP in its specifier. One plausible explanation is that SubjP is too local for attraction by C (Abels 2003, 2012) and that elements that are too local are simply ignored for the operation of probes (Preminger 2019). Another possible explanation is that SubjP and a DP in [Spec,SubjP] are equidistant from the probe (see Chomsky 1995), which voids intervention.

focused element over a nonfocused subject. This results in the need for leapfrogging in the by now familiar way.

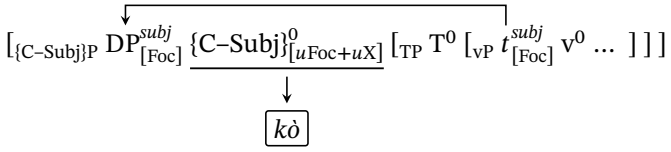
Let us consider a number of specific configurations. We begin with local-object Ā-movement, illustrated in (89). In this configuration, the object bears a [Foc] feature. After the subject A-moves to [Spec,SubjP], it intervenes between C and the focused object. The complex probe (88) can therefore not attract the object from its base position. Object extraction thus requires leapfrogging of the object to an outer [Spec,SubjP] above the subject, triggered by [*u*Foc] on Subj. C can then attract the object to [Spec,CP] because the object matches both [*u*X] and [*u*Foc]. Given the vocabulary items in (87), the derivation in (89) results in Subj being realized as *kè* and C as *ndò*. To derive the sentence-final appearance of *kè*, we assume that Subj is head-final and linearly follows its complement. To aid readability here and throughout, we show Subj to the left of its complement in the bracket structures.

(89) *Local-object fronting*



Next, consider Ā-fronting of a local subject, schematized for an external argument in (90), but the mechanism is exactly the same for unaccusatives. Following the proposal in Bennett (2009) and Bennett et al. (2012), in this case C and Subj are conflated into a single {C–Subj} head that subsumes the featural content of both C and Subj. Movement of the focused subject to [Spec,{C–Subj}P] simultaneously satisfies Subj's EPP requirement and C's [*u*Foc+*u*X].[38] In line with the items in (87), the {C–Subj} head is realized by *kò*.

(90) *Local-subject fronting*



This account predicts that no *kè* arises with Ā-movement of the sole argument of an unaccusative verb because no leapfrogging is necessary. As an anonymous reviewer informs us, this prediction is borne out.[39]

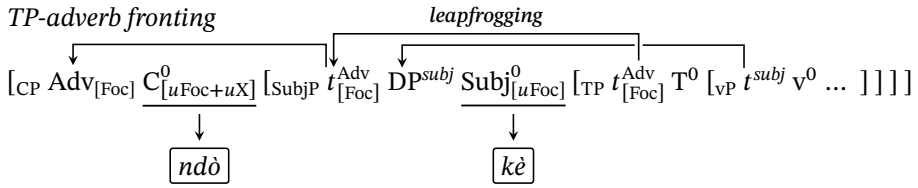
Third, let us consider a configuration in which an adjunct to SubjP is Ā-extracted, such as the temporal adverb in (81). The structure is schematized in (91). As we take all adjuncts to be base-generated below SubjP (as adjuncts are generally base-generated in non-peripheral positions), the temporal adverb is base-generated at TP in (91). [*u*Foc] on Subj attracts the adverb to an outer [Spec,SubjP],

[38] See also Van Urk (2015) for the general proposal that a single movement step may satisfy both A- and Ā-features on a head.

[39] The reviewer also notes that for some speakers, focus movement with unaccusative verbs marginally allows for *ndò* (rather than the expected *kò*) "under the right circumstances". What these circumstances are is unclear, and so we have no new insights to offer. Notably, however, *kè* is still impossible even if the fronted element is marked with *ndò* in these cases. This is in line with the account here.

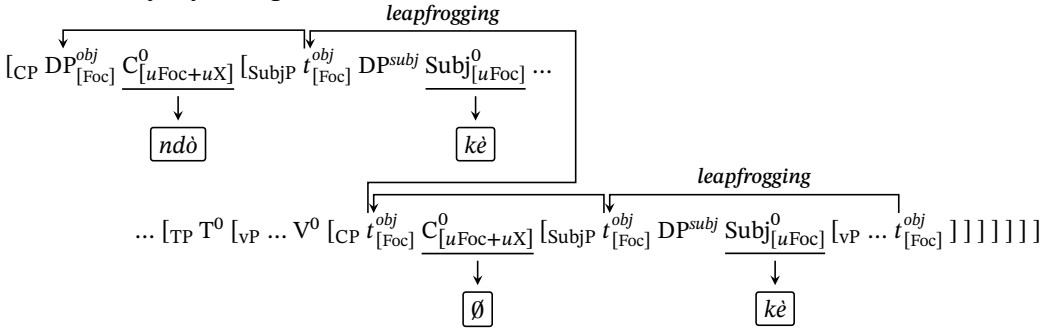
leading to *kè*, as above. The adverb then undergoes focus movement to [Spec,CP]. As a result, Subj is realized as *kè*, and C is realized as *ndò*.

(91) *TP-adverb fronting*



Next, let us turn to long-distance movement of an object. Such movement results in *kè* in every clause that is crossed by movement and in *ndò* in the clause that hosts the criterial position of the moved DP. The relevant structure is given in (92). Because CP is a phase, extraction out of the embedded clause must proceed through [Spec,CP], which we assume is triggered by a noncriterial counterpart of (88) on the intermediate C.[40] As in the previous cases, the [Foc]-bearing object is attracted by the embedded Subj, leading to leapfrogging over the subject. After subsequent movement to the embedded [Spec,CP], the object is then attracted by the matrix Subj's [*u*Foc], from where it is then attractable by the matrix C. Because both clauses contain a Subj with a checked [*u*Foc] feature, *kè* appears in both. By contrast, *ndò* appears only in the matrix clause because [*u*Foc] on the "intermediate C is not in the context of an overt element in [Spec,CP], and insertion of *ndò* is therefore not licensed.[41]

(92) *Nonlocal-object fronting*



Finally, this account also handles nonlocal-subject extraction (see (83) for an example). In this case, the fronted embedded subject bears *ndò*, and *kè* appears on the matrix verb but not the embedded verb. The corresponding structure is given in (93). Due to CP's phasehood, the embedded subject ($DP^{subj\text{-}2}_{[Foc]}$ in (93)) must first move to the edge of the embedded clause. Just as in (90), the embedded

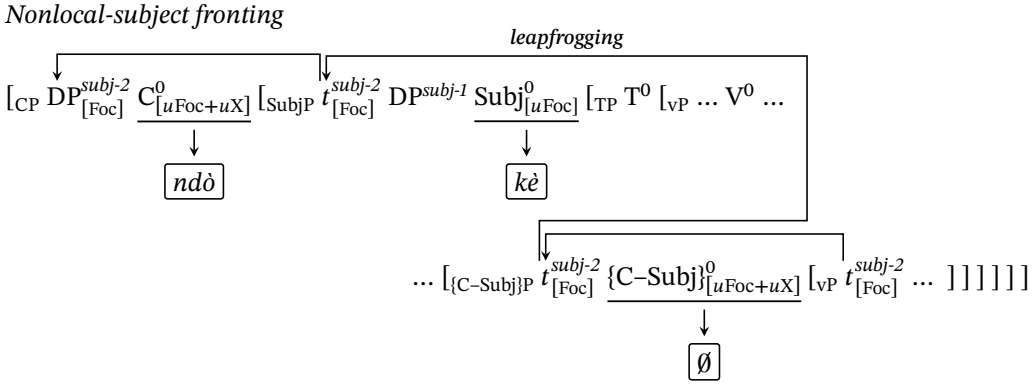
[40] Other implementations of obligatory movement through the CP phase edge are of course possible so long as these are restricted to the highest element in the clause, thus requiring leapfrogging over the embedded external argument.

[41] Of course, nothing prevents the embedded C from bearing a *criterial* [*u*Foc] feature. In this case, Ā-movement to the embedded [Spec,CP] is terminal and not followed by movement into the matrix clause (Rizzi 2006, 2010, 2015). The result is embedded focus fronting that is accompanied by an embedded *ndò* and *kè*. This is correct, as (i) shows (the matrix *kò* in (i) is the result of local fronting of the matrix subject *Bòmá*, an instance of the derivation in (90)).

(i) Bòmá ¹kó fàà-mà-**(*kè)** [CP ándù$_1$ **ndò** ìní ____$_1$ été-**kè**]
Boma FOC.SBJ say-NFUT-(*KE) canoe FOC they have-KE
'Boma said it's a canoe that they have.' [Bennett et al. 2012:297, ex. (22)]

CP and SubjP are conflated into a single projection, which attracts the external argument to its specifier. From this position, the embedded subject must then move to an outer matrix [Spec,SubjP] in order to be attractable by the matrix C (due to intervention by the matrix subject $DP^{subj\text{-}1}$). It hence agrees with Subj's [*u*Foc], followed by Agree with matrix C. In line with (87), the matrix C is realized as *ndò*, the matrix Subj as *kè*, and the embedded {C–Subj} as Ø because it is not in the context of an overt specifier.

(93) *Nonlocal-subject fronting*



In sum, there is strong reason to believe that in Defaka, successive cyclicity targets a position considerably higher than vP. First, the morphological locus of the reflex on the verb (*kè*) is peripheral to tense and negation, indicating a higher position. Second, even Ā-fronting of temporal and locative adverbs requires *kè* despite plausibly originating outside of VP. In other words, the crucial empirical split is between local-subject movement and movement of everything else, not between material in the vP domain and material outside of it. Because a DP-intervention account does not identify vP as a designated locality domain and instead attributes clause-medial successive cyclicity to intervention by the subject, it generalizes to structurally high successive cyclicity as in Defaka. The account thus derives the crucial empirical split between local-subject movement and movement of everything else. If the local subject is Ā-moved, SubjP and CP conflate, bleeding both *kè* and *ndò*. If any other element is focused, it must first move to an outer [Spec,SubjP], leading to *kè*. In addition, the account establishes a closer connection between *ndò* and *kè*. As discussed in section 4.2, because *ndò* is clearly located in a structurally high position, it cannot be analyzed in terms of vP phases. Bennett's (2009) and Bennett et al.'s (2012) phase account therefore handles *kè* and *ndò* quite separately, despite the fact that their distribution is largely conditioned by the same factor (the presence of Ā-movement of an element other than the local subject). By locating both effects higher than vP, the DP-intervention account ties them together more closely. *Ndò* appears when an element other than the local subject is attracted to C, and these are the elements that must first undergo leapfrogging over the local subject, yielding *kè*. Finally, the account derives the peripheral position of *kè* in the verb. The finding that the landing site of clause-medial successive cyclicity may be higher than both vP and TP complements the account of Dinka and it conforms to the expectations of a DP-intervention account: the position of the landing site tracks the position of the subject.

5. Consequences and outlook

5.1. Extraction and the source(s) of locality

Locality effects are commonly taken to fall into two groups: absolute locality domains and intervention/minimality. We investigated the distinction on the basis of clause-internal successive cyclicity. On the one hand, absolute locality domains render an entire syntactic constituent opaque to syntactic processes (94a). On the other hand, intervention-based locality effects involve the presence of a specific intervening element that prevents a dependency between two other syntactic elements (94b). Phases (and their precursors barriers in Chomsky 1986) are an example of the former; relativized minimality (Rizzi 1990) is an example of the latter. While some proposals blur the distinction between the two types of account (e.g., Abels 2003 attributes phase locality to intervention by the phase head) or attempt to dispense with one type of constraint in favor of the other (e.g., Müller 2004, 2011 reanalyzes apparent intervention effects in terms of phases), the two types of constraints are commonly taken to coexist. This raises the question whether any given locality effect is best analyzed in terms of domain-based locality or in terms of intervention-based locality.

(94) a. *Domain/phase-based approach:*
Obligatory successive-cyclic movement through a clause-internal position is the result of a clause-internal phase.

b. *DP-intervention approach:*
Obligatory successive-cyclic movement through a clause-internal position is the result of leapfrogging around an intervening DP.

In this paper, we considered this overarching question for clause-internal successive cyclicity. Such effects are standardly taken as evidence for the existence of a clause-medial phase (commonly vP). But recent work on the locality conditions of Ā-movement has proposed that Ā-probes can be specified in such a way that they can only attract the closest DP (Aldridge 2004, 2008a, Coon et al. 2021, Branan & Erlewine 2024), a restriction that may itself be derivable from the internally-complex structure of such probes. Such proposals make available an intervention-based account of successive cyclicity, according to which C may only attract the closest DP. Ordinarily, this results in a transparent extraction restriction: DPs other than the structurally highest one are banned from undergoing Ā-movement altogether (resulting in subject-only extraction restrictions or syntactic ergativity), and it is this kind of pattern that has motivated closest-DP restrictions in the works cited. But if the language permits optional leapfrogging of the object over the subject, all extraction is permitted, but non-subject extraction must be successive-cyclic.

We developed this approach for the subject-only extraction restriction in Standard Indonesian (SI) and for successive cyclicity in Dinka and Defaka. We argued that a DP-intervention account affords a principled explanation of the pertinent generalizations in these languages. First, the requirement for successive cyclicity is selective: in SI, PPs and adverbs do not trigger the reflex (emptying the subject position and absence of *meN-*) even if they cross vP; in Dinka, PP adjuncts do not trigger the empty-position effect. Second, the distribution of the effect does not seem to correlate with an element's structural relationship to vP. In Defaka, adjuncts that are arguably VP-external but not TP-external (and hence should not have to pass through [Spec,vP] on their way to [Spec,CP])

nonetheless trigger the effect. In SI, movement of an external argument is not restricted in the active voice (where the external argument is the highest DP), but movement of the external argument is restricted in the object voice (where the external argument is *not* the highest DP in the vP), despite the fact that the external argument is in the same structural position in both cases. Third, the analysis accounts for the facts that extraction of DP arguments of unaccusative verbs does not trigger the morphological reflex in either Dinka or Defaka. This follows from a DP-intervention account (since no DP needs to be crossed), but it must be stipulated on a phase-based account (e.g., unaccusative vP happens to not have phasal properties, see Chomsky 2000, 2001 and fn. 14; for arguments to the contrary, see Legate 2003). Finally, in Dinka unaccusatives, while DP extraction does not trigger the reflex, PP extraction does. This poses a puzzle for a vP-phase account, but it follows directly on a DP-intervention account: the PP must first leapfrog over the DP subject.[42]

Because the DP-intervention account focuses on the role of the subject DP, it differs substantially from intervention-based reanalyses of phase locality in general. For example, Abels (2003) develops an intervention-based conception of phasehood according to which the phase head acts as an intervener for all dependencies across it (also see Rackowski & Richards 2005, Halpert 2019, and Thivierge 2021 for other intervention-based accounts of phase locality). This derives that the phase edge remains accessible to such dependencies but elements c-commanded by the phase head do not. The DP-intervention account shares with this analysis the view that successive cyclicity arises from the need to move around an intervener. In other respects, the two accounts differ fundamentally. First, for Abels (2003), the intervener is a functional head in the verbal spine (i.e., the phase head); for us, the intervener is the subject DP. Second, Abels treats the intervention of the phase head as non-selective in the sense that the phase head is an intervener for *all* syntactic dependencies. By contrast, DP-intervention is selective in that a DP can intervene for movement of another DP but not movement of a PP, as in SI.

A more general characteristic of the DP-intervention analysis is that it makes available a unified approach to both clause-medial successive cyclicity and extraction restrictions, such as subject-only extraction patterns (Keenan & Comrie 1977), Austronesian voice systems (Aldridge 2004, Rackowski & Richards 2005) and potentially also syntactic ergativity (on accounts that attribute it to movement of the object over the subject; see Coon et al. 2021 and the references there for Mayan, and Yuan 2022 and the references there for Inuit). In all of these cases, C may attract only the closest DP, and an extraction restriction results if the closest DP is invariably either the subject or the object. Crucially, if object movement over the subject is possible but optional, object Ā-movement is possible, but it must be successive-cyclic. In other words, on the view we have proposed, obligatory successive-cyclic movement of non-subjects follows from the same principle that underlies extraction restrictions, but combined with variability in which argument is closest to C as the result of leapfrogging. Clause-medial successive cyclicity then emerges as an instance of a significantly more general class

[42] As Gereon Müller (p.c.) notes, the accounts of Dinka and Defaka developed here also differ from previous phase-based accounts in another important respect. These accounts treat the special morphology that arises with extraction (i.e., *ké* in Dinka, *kè* in Defaka) as a *reflex* of the movement. By contrast, our account in a way treats the morphology as a *precondition* of the movement, that is, the realization of a feature that triggers the movement in the first place. While this is a clear point of divergence, we believe that it is largely orthogonal to the choice between phases and DP intervention (see, e.g., McCloskey 2002, Müller 2011:225–238, and Korsah & Murphy 2020 for phase-based accounts that likewise treat special morphology as the realization of the trigger of movement).

of syntactic phenomena based on relativized minimality/intervention (see Rackowski & Richards 2005 for another, though technically very different approach).

5.2. Other arguments for clause-medial phases

As already alluded to above, clause-medial successive cyclicity has standardly been taken as empirical support for the existence of a clause-medial phase. To the extent that the DP-intervention accounts developed here are successful, at least the patterns discussed here no longer provide unambiguous evidence for clause-medial phases. And while DP intervention and vP phasehood are certainly compatible with each other (see, e.g., Aldridge 2004 for an account that involves both), extending DP intervention to successive-cyclic movement, as we have done here, highlights that there is significant overlap between the two. This raises the question whether it is possible to dispense with clause-medial phases altogether or whether the two constitute independent constraints on syntactic dependencies. That is, we can now ask whether (94b) replaces (94a) or whether both coexist. While this question is much too large to attempt to answer comprehensively here, we will offer some remarks on it.

An immediate place to consult for evidence regarding the status of (94a) is previous arguments for the presence of a clause-medial phase. One classical argument for the presence of an intermediate landing site in a clause-internal position (typically taken to be [Spec,vP]) is based on reconstruction and due to Fox (1999), Legate (2003), and Sauerland (2003) (also see Agüero-Bautista 2001). The argument involves configurations like (95). In this example, the Ā-moved DP contains (i) the pronoun *he*, which is bound by *every student* and (ii) the R-expression *Ms. Brown,* which is coindexed with the pronoun *her.* Fox (1999) reasons that the moved constituent cannot be interpreted in either its base position or its surface position. This is because in the base position, the R-expression *Ms. Brown* is c-commanded by *her,* which would violate Condition C; in the surface position, *he* is not c-commanded by *every student*, which is incompatible with the bound reading of the pronouns. Fox concludes that the moved DP must be interpreted in an intermediate position that is located lower than *he* (to allow binding) but higher than *Ms. Brown* (to escape Condition C). Fox identifies this position as [Spec,vP]. (95) then shows that it is possible for an Ā-moved element to create an intermediate landing site at vP.

(95) [Which of the books that **he$_1$** asked **Ms. Brown$_2$** for] did **every student$_1$** ___ get from **her$_2$** ___* ? [Fox 1999:174, ex. (40a)]

Crucially, the intermediate landing site in (95) must be below the position of the subject. This discourages a DP-intervention analysis. But it is far from clear that these facts necessitate vP phases either. The reason is that the availability of the relevant reading in (95) provides evidence that it is *possible* for the moved element to reconstruct into an intermediate position. However, as noted in Keine (2020b), this does not entail that the moving element *must* pass through a clause-internal intermediate position, only that it *may* do so. Thus, data like (95) do not constitute unequivocal evidence for vP phasehood. As an alternative, as long as wh-movement can apply to the output of another movement step (see in particular Kotek 2014, 2019 and Poole 2017 for English; and also Grohmann 1997, Wiltschko 1997, and Fanselow 2004 for German, and Takahashi 1993 for Japanese), the possibility of this first movement step is sufficient to permit an intermediate landing site, without appeal

to phases. One implication of this alternative analysis is that such intermediate landing sites should not be limited to one specific position like [Spec,vP]. This appears to be correct. Fox (1999:175n32) notes that it seems possible to use the reconstruction evidence to diagnose an intermediate landing site in every maximal projection. If the intermediate landing site is created by a separate movement step rather than vP phasality, then this variability in the position that this movement step may target yields the desired flexibility in the location of the reconstruction site. As a general conclusion, then, arguments that merely establish the *optional* presence of an intermediate landing site do not bear on the choice between the hypotheses in (94).[43]

A similar line of reanalysis is available for other purported arguments for vP phases, including QR and ACD (Legate 2003:509–510), parasitic gaps (Nissenbaum 2000:48–53, Legate 2003:510–511, Abels 2012:43–47), and potentially quantifier float (McCloskey 2000, Henry 2012). We conclude that data that only establish the optional presence of an intermediate landing site are too weak to bear on the choice in (94).

While some of the previous arguments for clause-medial phases may therefore also be handled without such phases, there are still remaining arguments for clause-medial phases that will need to be reanalyzed if such phases are dispensed with entirely. In the interest of space, we will not attempt to do so here, but we will nonetheless mention some relevant arguments. One argument is presented by Manetta (2010, 2011) on the basis of wh-scope marking in Hindi. Without going into the details of the argument or Manetta's analysis, we point the reader to Dayal (2017) for a reply and to Dayal (1994, 1996) and Lahiri (2002) for an alternative account of these constructions that does not involve vP phases. Another important argument for vP phases comes from Abels's (2003, 2012) stranding generalization, according to which complements of phase heads may not be moved. Abels shows that VP may not be moved if it is embedded under a vP, as predicted if vP is a phase. If vP is not a phase, this argument is in need of reanalysis, which we leave for future work. Other arguments for clause-medial phases are based on empirical patterns other than successive cyclicity. For example, Legate (2003), Kratzer & Selkirk (2007), Bošković (2016), and others argue that phases have prosodic reflexes as well and that vPs exhibit such reflexes. Bošković (2014) and Harwood (2015) propose that phases constrain ellipsis and consequently that the possibility of clause-internal ellipsis provides evidence for clause-medial phasehood. To what extent these arguments can be reconciled with the absence of clause-medial phases remains to be seen. It is worth noting that these arguments are based on clause-medial domains being the domain of application for prosodic and ellipsis processes, not locality domains for syntactic operations. This might suggest a possible avenue of reconciling these arguments with our conclusions here, a suggestion which we leave for future work as well.

5.3. Successive cyclicity and the position of subjects

One particularly clear difference between a phase account and a DP-intervention account concerns the location of the intermediate landing site. Because on a DP-intervention account, the need for successive-cyclic movement arises from the need to leapfrog over the highest DP (typically the subject), this account makes the prediction that the intermediate landing site should target the projection that hosts the subject across languages and constructions. While it is often difficult to pinpoint the location of the intermediate landing site with the necessary precision, our accounts of Dinka and

[43] That said, the DP-intervention account requires that movement not be free but feature-triggered. Optional movement is thus movement that is triggered by an optional feature (such as [$u\varphi$] on T in Dinka).

Defaka are compatible with this prediction (though we note that for Dinka there does not seem to be clear empirical evidence for the landing site being in either [Spec,vP] or [Spec,TP]). The phase account makes no such prediction: if successive-cyclic movement is the result of a clause-medial phase, then it must target whichever projection constitutes this phase, regardless of where the subject is located. While it is possible for the position of the phase to vary across languages, either because languages differ in which heads are phasal or because phase locality might slide up through various mechanisms (Bošković 2014, Harwood 2015, Den Dikken 2007, Gallego & Uriagereka 2007a,b), any correlation with the position of the subject would be coincidental.

The position of the intermediate landing site is thus a key factor that differentiates the two lines of analysis. To illustrate the issues at stake, we will briefly consider Ā-extraction in varieties of Indonesian/Malay other than the prescriptive variety discussed in section 2 (see Saddy 1991, Cole & Hermon 1998, 2005, Soh 1998, Fortin 2006, 2007, Aldridge 2008b, Cole et al. 2008, Sato 2012, Georgi 2014, Jeoung 2018).[44] The core paradigm is illustrated with the Malay examples in (96). As in SI, the verb bears the prefix *meN-* in the active voice (96a). Non-subject extraction is prohibited if *meN-* is present (96b) while subject extraction is permitted (96c). The crucial difference between these varieties and SI is that non-subject extraction *is* possible if *meN-* is deleted (96b) (Saddy 1991:185–188, Cole & Hermon 1998:230–233, Soh 1998:295–298, Fortin 2006:49–50, Fortin 2007:48–53, Aldridge 2008b: 1442, 1450, Cole et al. 2008:1504–1505, Sato 2012:33–36). Note in particular that the EA in (96b) precedes the aspectual marker *telah*, indicating that (96b) does not derive from an object-voice source (compare in particular (16)). Other aspect, tense, and negation markers also appear between the EA and verb. The same overall pattern holds for relativization (Cole & Hermon 2005).

(96) *Malay*

a. Ali telah mem-baca buku itu.
Ali PFV ACT-read book the
'Ali has read the book.'

b. **Apa-kah$_1$** yang Ali telah (*mem-)baca ____$_1$?
what-Q that Ali PFV (*ACT-)read
'What has Ali read?'

c. **Siapa-kah$_1$** yang ____$_1$ telah mem-baca buku itu?
who-Q that PFV ACT-read book the
'Who has read the book?' [Soh 1998:296–297, ex. (6), (9)]

The crucial difference between SI and the Malay examples in (96) is thus that in SI, extraction of the IA requires the IA to becomes the subject first (hence use of the object voice), whereas no such requirement exists in (96), as long as *meN-* is absent.

What is particularly interesting about this pattern is that the subject is located in [Spec,TP] (preceding *telah* in (96)), but that the morphological reflex (deletion of *meN-*) appears within vP. If the locus of the morphological reflex faithfully reflects the position of the intermediate landing site, then the location of the intermediate landing site appears to be *lower* than the position of the subject. All else equal, this would be surprising on an account of (96) in terms of DP intervention.

[44] Many thanks to Julie Legate for very helpful comments on the issues discussed in this section.

Several analytical paths exist at this point. One is to maintain a close link between the position of the reflex and the location of the intermediate landing site. On this view, because the reflex affects voice morphology, the intermediate landing site must be located at vP, hence lower than the subject. If so, (96) supports a vP-phase account (see Aldridge 2008b, Cole et al. 2008, Sato 2012, Georgi 2014, Jeoung 2018 for relevant accounts, and also Chomsky 2004:116): movement to the vP edge leads to deletion of *meN-*. This line of account would then support the view that vP phases (94a) and DP intervention (94b) coexist. The principal way of distinguishing between their effects is then whether the location of the intermediate landing site is just above the subject (indicating DP intervention) or below (indicating vP phases).

Interestingly, Indonesian and Malay nonetheless exhibit the same kind of challenges for a vP-phase account we observed for SI. First, extraction of non-DPs does not require *meN-* to be absent (Cole & Hermon 1998:231–232, Soh 1998:313–314, Fortin 2006:49–50, Fortin 2007:51–53, Cole et al. 2008:1505, Sato 2012:35–36). Second, extraction of the EA in the object voice is ill-formed (Legate 2014:75–76 for Indonesian, Hooi Ling Soh (p.c.) for Malay, Yanti 2010:50 for Tanjung Raden Jambi Malay, and Legate 2014:56 for Acehnese). So a vP-phase account is not altogether straightforward either (though see Cole et al. 2008 and Legate 2014:59–64 for extensions of a phase account to the ban on EA extraction in the object voice). This invites a DP-intervention approach to (96).

The analytical alternative to vP phases is thus to maintain DP intervention but to contest that the locus of *meN*-deletion necessarily corresponds to the location of the intermediate landing site. Concretely, suppose that leapfrogging does target an outer [Spec,TP] in (96b) and is hence driven by a probe on T, but that this probe conditions the morphology on v non-locally, for instance via the impoverishment rule in (97).[45] Assuming that leapfrogging is triggered by an optional δ-feature on T, (97) deletes v's active-voice feature, bleeding *meN-* (98).[46]

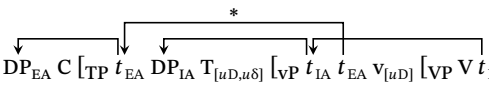
(97) $[\text{active}]_{\text{v}} \rightarrow \emptyset \;/\; \text{T}_{[u\delta]} \cdots \_\_$

(98) /meN-/ ↔ [active]

This account thus loosens the connection between the position of the intermediate landing site (at TP) and the position of the morphological reflex (at v), allowing the intermediate landing site in (96) to be above the subject after all. If this line of account is feasible, DP intervention might replace

[45] This rule is inspired by Georgi's (2014) account of *meN*-deletion in Indonesian, which also employs impoverishment of v's voice feature (albeit triggered by v's specifier rather than T). Impoverishment of one head that is triggered by features on another head has been proposed by, e.g., Müller (2006), Arregi & Nevins (2007, 2012), Harley (2008), and Božič (2020).

[46] As it stands, an account based on (97) and (98) accounts for *meN*-deletion with non-subject extraction in the active voice, but it does not derive the ban on EA extraction in the object voice. This is because leapfrogging of the EA to an outer [Spec,TP] is in principle still permitted, as schematized in (i). Here, the object-voice v (which is identical to (20b)) triggers inversion of the IA over the EA within the vP, followed by IA becoming the subject (this is analogous to the analysis of object voice for SI in section 2). Then T's δ-feature triggers movement of the EA over the IA, feeding EA movement to [Spec,CP]. The problematic TP leapfrogging step is indicated with "*" in (i):



Because EA extraction is banned in the object voice, (i) must be blocked. One possible account is to capitalize on the fact that (i) involves crossing of movement paths (in contrast to well-formed IA extraction in active voice, which involves nesting dependencies). Constraints against crossing dependencies, such as Pesetsky's (1982) *Path Containment Condition*, thus correctly rule out (i).

the need for clause-medial phases for these cases as well. We will leave the choice between the two analyses open.

5.4. Implications for the distribution of phases

The discussion so far as focused almost exclusively on clause-medial phases. But of course the general question we raise—to what extent can apparent phase effects be rethought as DP-intervention effects?—likewise applies to clause-peripheral phases. Specifically, we can now ask to what extent an intervention-based account generalizes to successive cyclicity through [Spec,CP]. We cannot investigate this question here, but there are a number of possible situations that could arise. First, *if* clause-medial phases can be dispensed with more generally, and if successive cyclicity through CP can be handled without appeal to phase-based locality, then this would raise the possibility that phases in the standard sense can be dispensed with altogether (that is, successive-cyclic movement would then never involve (94a)). Alternatively, it could be that CPs are phases in the traditional sense but vPs are not (that is, (94a) would be relevant for CPs but not for vPs). In this case, we expect to find locality asymmetries between CPs and vPs. Some recent work has indeed argued for such asymmetries and concluded that CP is a phase but vP is not (Grano & Lasnik 2018 and Keine 2020a,b; as well as Zeijlstra 2004, 2012 for asymmetries involving negative concord, and Poole 2022 for case assignment), and this is the view we have adopted in the analysis of Defaka (section 4.3). A third conceivable situation is that traditional phase locality still has a role to play for both vP and CP alongside intervention-based locality (that is, (94a) and (94b) are both complementary constraints in both domains).

While the question is primarily an empirical one, it has a conceptual dimension as well. Müller (2004, 2011) notes that there is an inherent tension between absolute locality domains like phases and relative notions of locality like minimality or intervention. He points out that intervention presupposes search space: such constraints have an effect only if the search space contains at least two elements that have the relevant property (so that one can intervene for movement of the other). By contrast, absolute locality domains like phases have the effect of limiting search space because they constrain the amount of structure that is simultaneously accessible at any given point. Müller (2004, 2011) proposes that intervention-based locality constraints should therefore be dispensed with in favor of absolute locality constraints like phases. To the extent that it is generally desirable to dispense with one type of locality constraint in favor for the other, the results here suggest the opposite direction of elimination—weakening the overall role of phasehood (either by reducing the number of phase heads or by eliminating it entirely) and placing greater emphasis on intervention in the account of successive cyclicity.

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